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O F

A N I M A L S.

By J O H N H I L L, M. D.

Acad. Reg. Scient. Burdig. &c. Soc.

A N

H I S T O R Y

O F

A N I M A L S.

Containing DESCRIPTIONS of the

BIRDS, BEASTS, FISHES, and INSECTS,

OF THE

Several PARTS of the WORLD;

A N D

Including ACCOUNTS of the ſeveral Claſſes of ANIMALCULES, viſible only by the Aſſiſtance of MICROSCOPES.

IN THESE

The CHARACTERS, QUALITIES, and FORMS of the ſeveral Creatures are deſcribed, the NAMES by which they are commonly known, as well as thoſe by which AUTHORS, who have written on the Subject, have called them are explained:

And each is reduced to the CLASS to which it naturally belongs.

Illuſtrated with Figures.

By JOHN HILL, M. D.

Acad. Reg. Scient. Burdig. &c. Soc.

LONDON:

Printed for THOMAS OSBORNE, in *Gray's-Inn.*

MDCCLII.

A General Hiſtory of PLANTS.

A General Hiſtory of MINERALS and other FOSSILS.

Both by the ſame AUTHOR; and each adorned with a great Number of Figures.

Each of theſe Volumes contains a Compleat Hiſtory of one of the Three Diviſions of Natural Bodies; and is perfect without the others.

The Three together make a Compleat Body of Natural Hiſtory.

There are a ſmall Number printed for the Curious on Royal Paper; and the Cuts of theſe are coloured under the immediate Inſpection of the AUTHOR.

THE

PREFACE.

A LARGE field was before the Author of these volumes, when he first laid down the plan of the Work. Part of it had been more, part less cultivated, and a part, not to reproach the Naturalists too much, left almost in it's native wildness. When I mention the part most cultivated, I shall readily enough be understood to mean that which relates to vegetables; the animal world has, of late years, began also to be examined, but what has been written concerning it, is not by any means to be compared with the labours of the late and present age, in regard to Botany. The Fossils, although of equal number, and of equal value with even the Animals, or with the Plants in use; most valuable of all in point of property and intrinsic value; had been scarce at all regarded as the objects of a regular disquisition.

FROM the earliest time indeed men had written of them. Theophrastus, whose works on this subject I some time since published, although one of the earliest of these whose works have travelled down to us, mentions the study as not new, and even quotes Diocles, and some others who went before him. But although the Greeks, and the Latins after them, have treated of minerals, what they have written serves but to shew how little they were acquainted with them, nor has the industry of the Germans served to much better effect, than the genius of those earlier investigators. The one have described a few, the others have understood a few. The far greater part lay untouched, unnoticed, and even unnamed: And, of the small number that either had considered, none were yet arranged into any kind of order.

IF we except our Dr Woodward, it will be hard to mention any author, who has made but a tolerable attempt toward distributing the Fossils into method, and forming the study of them into a science. Linnæus has followed him, but, instead of order, he has introduced confusion: neither did the arrangement of Woodward, in his catalogues, by any means approach towards a perfect system. The real characters of these bodies he was wholly unacquainted with, and it was therefore impossible he should arrive at any sound method of disposing them.

The PREFACE.

IN this ſituation was the ſtudy of this part of Natural Hiſtory, at the time when theſe volumes were undertaken. The Author thought it therefore eligible, in that part, to proceed ſolely upon the plan of his own thoughts, and that volume is written accordingly, in a manner different from all that has appeared upon the ſubject, and does not refer to any other work, or adopt the opinions of any other author.

I have been accuſed of eſtabliſhing a new method, and of introducing new words on this occaſion: but it was neceſſary, and therefore it was excuſable. In regard to the ſubjects of the two ſucceeding volumes, others had written of them ſcientifically, and they had been already arranged into, if not perfect, at leaſt very rational methods. It had therefore been indeed culpable to have formed new ſyſtems, and introduced new words in theſe, becauſe it was not neceſſary. Some good might have ariſen from it; but that good would not have been proportioned to the trouble, which it would have occaſioned to ſuch as had already ſtudied in thoſe ſyſtems.

TO avoid this, I have, both in the Hiſtory of Plants, and that of Animals, adopted ſo much of the method of Linnæus, as is conſiſtent with obſervation: and have, ſo far as my examinations of the bodies would enable me, filled up the deficiencies, and corrected the errors of that plan. The reader is not to underſtand this, as regarding any part of the work, beſide the characters, which are prefixed in a few lines to each genus: the deſcriptions are, in general, formed from the objects themſelves; thoſe which are not, that is, thoſe which had for their ſubjects plants or animals, of which neither my own private collection, nor that of any of our naturaliſts, afforded ſpecimens, are the reſult of a careful examination of what authors have ſaid, compared with one another.

THAT I choſe the method of Linnæus for the arrangement of theſe bodies, was, in part, becauſe it is nearer a natural ſyſtem than that of any other, and, in part, becauſe it has been moſt read: thoſe who ſtudy theſe ſubjects, had acquainted themſelves with his new names, much better than the old, and, not to load them with unneceſſary words, I have, in as many parts as I could, retained theſe with their original ſenſe.

LINNÆUS, though full of merit, is full of faults, as well as of imperfections. He has written no Hiſtory either of plants or animals, ſo that it was but very little in which I could be obliged to him, if I had inclined to be ſo; and in that the inquiry has generally pointed out errors, which it was neceſſary to amend. Where I depart from him in the characters of any ſpecies, or of a genus, it is not in careleſſneſs or wantonneſs, but from obſervation. I do not lay down his characters as perfect; but characters of which his are the foundation; and which an examination of the bodies they concern, has altered or approved.

A very

The PREFACE.

A very conſiderable part of botany lay untouched, even by this author. All that concerned the leſſer, commonly called the imperfect plants, was to be begun de novo ; *in this I have been obliged to form a new method, and to introduce new words as in the mineralogy; but, as there were none before for the ſame objects, theſe muſt be excuſed: they have a ſufficient plea for this, as they lay down, in a regular and ſyſtematic method, a large portion of the Hiſtory of Plants, never diſpoſed in any degree of order before.*

AS in regard to the Plants, ſo with the Animals, the leſſer have been diſregarded. It required a peculiar ſeries of experiments to diſcover the characters of that minute part of the inſect creation, which was too minute for the unaſſiſted ſight ; and authors, either through unacquaintance with the only means by which theſe could be diſcovered, the aſſiſtance of glaſſes, or from mere neglect, have paſſed them over in ſilence. Certainly, their want of magnitude does not exclude them from their rank among animated beings ; yet this is the only Hiſtory of Animals, in which they have been honoured with a name.

I have been at the pains of viewing all theſe by the microſcope, and not according to the erroneous accounts of thoſe ſuperficial writers, who have treated of ſome of them, or of thoſe who only pretend to have ſeen others; but, from what appeared on that examination, I have arranged them into a regular method, and given them denominations. The reader who is addicted to cavilling, muſt not find fault with me for this. I have not changed their names, the greateſt part of them had none before. For the other parts of this volume, they are finiſhed on the ſame plan with thoſe of the ſecond : and have juſt as much obligation as they to the writers who have gone before.

IT is with great pleaſure that I ſee a ſpirit of this part of knowledge raiſing itſelf among us. We have the foundation in our hands, and there requires little more than application for the ſuperſtructure. Mr da Coſta, a perſon of great knowledge in mineralogy, promiſes us an account of many things in his excellent collection; I don't know whether he does not mean to call it a Hiſtory of Foſſils. Mr Baker is about to publiſh figures of many objects ſeen through microſcopes : though this collection will hardly be without error, yet, doubtleſs, there will be much curioſity in it; and Captain Armſtrong, in a hiſtory which he has juſt publiſhed of Minorca, has ſhewn an uncommon knowledge in theſe things, for one who could have but occaſionally ſtudied them. I ſhould ſay more of this Author, had he ſaid leſs of me. The Royal Society of London is a name alſo, from which much might be expected. I am ſorry to confeſs, that their labours have, to this time, by no means anſwered the expectation of the world, but they have now

entered

entered on new regulations, under the influence of which it is ſcarce to be doubted, but they will do honour to themſelves and to their country. I have fallen under their diſpleaſure for giving cauſe to theſe; but that is of little conſequence, in compariſon with the advantages that will accrue from thoſe cenſures which occaſioned the reformation.

UPON the whole, it is a ſingular ſatisfaction to me to ſee a ſtudy, which I ſo much love, riſing at this time to a new height: and it is not the leaſt part of that ſatisfaction that I have in theſe volumes, and ſome other Works on the ſame ſubject, contributed ſomewhat towards it. With what advantages I have delivered my ſentiments on theſe ſubjects, others are to judge; it ſatisfies me, that I have done it with truth.

THE HISTORY OF ANIMALS.

PART I.

Of the leſſer Animals, called, ANIMALCULES and INSECTS.

BOOK I.

Of ANIMALCULES.

ANIMALCULES are animals ſo minute in their ſize, as not to be the immediate objects of our ſenſes, and are only ſeen by the aſſiſtance of microſcopes. Theſe are vaſtly more numerous than any other part of the animal creation; but the ſpecies, on a cloſe examination, are found to be extreamly few, in proportion to the number of the individuals. If we were to take all the accounts of the people who have written on the ſubject of microſcopical diſcoveries as authentic, we ſhould indeed be led to imagine nature as fruitful in the diverſity of genera, as well as ſpecies, among theſe her minuter, as in her larger, works; but an impartial and attentive examination ſecludes the far greater number of what are deſcribed and figured by thoſe writers, from the rank of diſtinct exiſtences. Many of them have had their origin from the mere imperfect obſervations of other known ſpecies; and not a few from the abſolute want of candour and ingenuity in the writers, who have deſcribed and figured things they never ſaw.

We have delineations of little men and women in the figures of the Animalcula in ſemine of ſome authors; and other extravagancies of a little leſs ridiculous kind in thoſe of the Animalcules, found in the infuſions of vegetables as given by others. Theſe would need no more than a repetition to condemn both them and their authors; but the far greater number of the additional exiſtences in this part of natural hiſtory has been owing to error, not to diſingenuity. The ſame creature, in it's different poſitions, will appear of very various ſhapes and figures; and among theſe creatures, as among the inſect tribe, many have a power of enlarging and contracting their bodies occaſionally, in a ſurprizing manner. It is difficult to guard againſt the being deceived by the figures given with the greateſt truth and accuracy from theſe, in their ſeveral ſtates, as of ſo many different creatures: indeed there is no way of avoiding it, but by making our own obſervation the baſis of our accounts, and paying a very limited credit to thoſe which we receive on the teſtimony of others. In conſequence of a cloſe inveſtigation, with an apparatus more calculated for

making

making diſcoveries than any of the common kinds, I have added ſome unknown ſpecies to the Animalcule kingdom; but, notwithſtanding this, the diſcoveries made of the errors and falſities in the accounts of others, in improperly multiplying the known ſpecies, have ſo greatly reduced the liſt of the ſuppoſed Animalcules, that the number will appear much ſmaller here, than in any work that has been publiſhed on the ſubject.

The moſt obvious diſtinctions among theſe minute creatures are, that ſome have, and others have not, tails; and that ſome have, and others have not viſible limbs. According to theſe characters, they may be conveniently arranged under three claſſes: the firſt, containing thoſe which have no viſible limbs, nor any tail; the ſecond, thoſe which have tails; the third, thoſe which have viſible limbs; diſtinguiſhed by the names of, 1. *Gymnia*; 2. *Cercaria*; 3. *Arthronia.*

ANIMALCULES.

Claſs the Firſt.

GYMNIA.

Thoſe which have no tails, nor any viſible limbs.

ENCHELIDES. Capillary Eels.

ANIMALCULES, which have no viſible limbs or tails, and are of a cylindric or ſubcylindric figure.

Theſe have been mentioned by all the microſcopic writers, under the general name of Capillary Eels, but their figures have not been ſufficiently attended to, and conſequently the ſeveral ſpecies have never been diſtinguiſhed.

Enchelis corpore utrinque attenuato graciliori. Pepper Water Eel.
The Enchelis, with a ſlender body ſmaller at the ends.

This is an Animalcule of the ſmaller kind, and is not viſible without conſiderably powerful glaſſes. It's whole body is of the ſame thickneſs, except that it becomes gradually ſmaller at each end: it's ſurface appears uniform and ſmooth; it's colour is whitiſh: it is very thin, in proportion to it's length, and very nimble in it's motions; it's whole body is frequently convoluted and drawn into different figures; and, but for the obſerving it's progreſſive motions, which are always made with the head forwards, it would not be eaſy to diſtinguiſh at which extremity of the body that were placed. It is conſiderably tranſparent, but leſs ſo than ſome of the others of this genus.

It is frequent in the thin ſkin that appears on the ſurface of the cold infuſions of vegetable ſubſtances, after they have ſtood three or four days; an infuſion of pepper uſually furniſhes great numbers of it, but it is in nothing ſo certain and numerous, as in water in which cubebs bruiſed have been ſome time infuſed.

Enchelis corpore craſſiori ſubæquali.
The Enchelis, with a thicker and nearly equal body.

This is not of the number of the very ſmalleſt Animalcules. It is oblong and thin, but conſiderably thicker than the precedent ſpecies: it is ſo perfectly tranſparent, that there is ſcarce any colour viſible in any part of it, but what there does appear is whitiſh: it's ſurface is perfectly ſmooth and even, and the head and tail ſcarce at all ſmaller than the middle: it is but languid in it's motions, and rarely alters the figure of it's body.

It is found in infuſions of elder flowers, and many other vegetable ſubſtances: a third magnifier ſhews it very diſtinctly.

Enchelis

Enchelis capite attenuato, cauda truncata.
The Enchelis, with the head ſmall, and the tail truncated.

This is one of the larger Animalcules: it is conſiderably long, in proportion to it's thickneſs, and is very tranſparent: it's ſurface is ſmooth; it's ſkin appears extreamly thin, and ſcarce at all coloured: it is ſmalleſt at the head; it's whole body, except at this part, is of the ſame thickneſs, and the end, where the tail ſhould be, is truncated. It is but languid in it's motions.

It is found in fermented liquors, that have ſtood till vapid, particularly in cyder. A third magnifier ſhews it very diſtinctly.

Enchelis corpore utrinque attenuato, annulato. Vinegar Eel.
The Enchelis, with an annulated body, ſmall at each end.

This is a very minute Animalcule. It is very ſlender, in proportion to it's length, and is tranſparent; but it's ſkin ſeems thicker than in either of the former, and of a browniſh colour. It's extremities are both ſmall, but the head runs more to a point than in the other; and the ſurface of the body, when ſtrictly examined, appears not to be ſmooth as in the others, but annulated or compoſed of a number of rings or joints, like that of an earthworm; and it's motions are performed, by extending and contracting it's body in the ſame manner.

It is found, like the former, in fermented liquors, that have ſtood till they begin to decay, but particularly in dead vinegar. The other ſpecies are alſo ſometimes found in that fluid, but more rarely, and never any of them till it becomes quite dead and vapid; hence the abſurdity of the opinion, that vinegar owes it's ſharpneſs to theſe Animalcules, is ſufficiently evident.

Theſe are the diſtinct ſpecies of this genus, which I have hitherto obſerved. Authors in general ſeem to underſtand the capillary eels as of one ſpecies, and even add to them the larger animals of this form, found in dead ſmall beer, and very much decayed vinegar, under the ſame name, though thoſe are in reality the offſpring of a common ſmall black fly, to be deſcribed in it's place.

CYCLIDIA.

ANIMALCULES which have no viſible limbs or tail, and are of a roundiſh or elliptic figure. Some of theſe have been figured and deſcribed by the microſcopical writers, but in a very vague and indeterminate manner, and without names.

Cyclidium corpore orbiculari pellucidiſſimo.
The Cyclidium, with a round and very pellucid body.

This is of the number of the ſmalleſt Animalcules. It is of an exactly and perfectly round ſhape, and ſo pellucid, that in a full light nothing is diſtinguiſhable of it but a thin line marking it's circumference: in the beſt adapted light it appears no other than an extreamly thin and ſmooth membrane, filled with clear water; it is colourleſs as the fluid it ſwims in; it's motions are very quick, and it is a continual prey to the larger inhabitants of the ſame fluid.

It is common in ditch water in ſummer; ſcarce a drop can be any where taken up, that does not ſhew millions of it. It requires a ſecond magnifier, or even a firſt, to ſee it diſtinctly.

Cyclidium corpore orbiculari ſubfuſco.
The Cyclidium, with a browniſh, orbicular body.

This is of the number of the ſmaller Animalcules, but it is conſiderably larger than the former. It is leſs exactly round alſo in it's ſhape, though it never much recedes from that figure. It is pellucid, but leſs ſo than the former: it's ſkin has ſomewhat of a browniſh tinge, and is ſmooth; but there are ſeen within the body ſome ſpots and lines which mark out where the inteſtines lie. It is very nimble in it's motions,

and

and frequently will turn round with great rapidity, moving progreſſively forward at the ſame time.

It is common in ditch water. A third magnifier ſhews it very diſtinctly.

Cyclidium corpore elliptico.
The Cyclidium, with an elliptic body.

This is one of the larger Animalcules. It is of an elliptic, or, as we are apt to expreſs it, an oval figure: it's length is about once and a half it's diameter, and both ends are equally large and obtuſely rounded: it's colour is a duſky brown, with a caſt of the olive; it's ſkin is not ſmooth, but as it were granulated, and the traces of the inteſtines are very viſible in it. It is conſiderably tranſparent, and uſually appears flattiſh, ſometimes more diſtended; it is very quick in it's motions, which are always firſt ſideways, and then progreſſive.

It is frequent in the infuſions of vegetable bodies, particularly in a cold infuſion of bruiſed henbane ſeeds. In the film that appears after three or four days on this infuſion, they are ſo amazingly numerous, that a little drop of it ſhews to the third magnifier, of a double microſcope, many hundreds of them rolling over one another.

Cyclidium corpore ovato.
The Cyclidium, with an oval body.

This is not of the number of the ſmalleſt of the Animalcules, though much inferior in ſize to the former. It is of a tolerably regular ovate figure, repreſenting a hen's egg in miniature; both ends are rounded, but that where the head is ſituated is much ſmaller than the other. The ſurface of the whole Animalcule is perfectly ſmooth; it's ſkin colourleſs and pellucid, and the traces of the inteſtines are eaſily diſtinguiſhed in it, in form of roundiſh, aggregated ſpots, which reflect a variety of colours in moſt lights. It is not very nimble in it's motions; a ſecond magnifier ſhews it very diſtinctly.

It is found not unfrequently in ditch water, but much oftener in the cold infuſions of vegetables, as in that of white poppy ſeed.

PARAMECIA.

ANIMALCULES which have no viſible limbs or tails, and are of an irregularly oblong figure.

Paramecium corpore ſublongo, utrinque obtuſo, volubili.
The Paramecium, with an oblong, voluble body, obtuſe at each end.

This is of the number of the larger Animalcules. It is of an oblong figure; it's length is equal to about three times it's diameter, and it's colour a very pale brown, with a faint admixture of greeniſh. The head and tail are both obtuſe, but they are ſmaller than the reſt of the body: the ſkin is thin, ſmooth, and tranſparent, and the traces of the inteſtines are diſtinctly viſible through it. It is tolerably ſwift in it's motions, and is able to twiſt and turn about it's body, and to double and fold it up in various manners, ſo as to appear of a very different ſhape from it's real one; and it has hence unluckily impoſed upon many of the microſcope obſervers, who have figured it as of different ſpecies under this diverſity of appearances.

It is not uncommon in ditch water; a third magnifier in the double microſcope ſhews it very diſtinctly.

Paramecium corpore ſublongo, caput verſus attenuato.
The Paramecium, with an oblong body, ſmalleſt toward the head.

This is not of the ſmalleſt kind of Animalcules. It's length is about three times and a half it's diameter; it's hinder extremity is large and rounded, from this it grows gradually ſmaller all the way, but particularly near the head; it is much ſlenderer than

than in any other part, ſo as to have the appearance of a neck: the head, at the extremity of this, ſometimes is thruſt out, and appears roundiſh, in form of a button; but more uſually it is drawn in, and the end is as it were truncated. It's ſkin is ſmooth and pellucid; the traces of the inteſtines are eaſily ſeen through it: it's motions are ſlow and irregular, and the upper part of the body is frequently incurvated.

It is found in many vegetable infuſions: in none more plentiful than in that of the dried leaves of yarrow. A fourth magnifier will ſhew it; a third gives all it's parts diſtinctly.

Paramecium corpore ſublongo, medium verſus anguſtato.
The Paramecium, with an oblong body, narroweſt toward the middle.

This is one of the ſmaller Animalcules, but not of the moſt minute kind. It's length is equal to about twice and a half it's diameter; it is ſomewhat flatted, and is conſiderably larger at the tail than the head, and rounded at both theſe extremities; but what is ſingular in it's figure is, that it has a cincture, as it were, toward the middle, but nearer the head than the tail, which gives it an appearance of being divided into two portions. It's ſurface is ſmooth, it's colour browniſh; it is conſiderably tranſparent, and the traces of the inteſtines are very viſible in it. It is tolerably nimble in it's motions, and is apt to throw it's body into various odd poſitions.

It is frequent in vegetable infuſions; that of pepper often affords it; and a cold infuſion of the nux vomica ſcarce ever fails of ſhewing numbers of it.

Paramecium corpore oblongo graciliore.
The Paramecium, with a ſlender, oblong body.

This is by much the ſlendereſt of all the Animalcules of this genus, but it in no degree approaches to the figure of the capillary eels. It's length is equal to about five times it's diameter, and it has ſomewhat of the general figure of a leech; it is flat and thin; it's ſurface is perfectly ſmooth, and it's ſkin ſo tranſparent, that the inteſtines are beautifully ſeen through it. It is thickeſt and broadeſt in the middle, and terminated obtuſely at both ends: it is briſk and nimble in it's motions, and is very diſtinctly ſeen with a third magnifier.

I have met with it in great abundance in an infuſion of zedoary root, and often in ditch water.

CRASPEDARIA.

ANIMALCULES without any viſible limbs or tails, but with an apparent mouth, and a ſeries of fimbriæ round it, in manner of a fringe.

Two ſpecies of this genus have been figured by ſome of the microſcopical writers, but without names, or any accurate deſcriptions.

Craſpedarium corpore ſuborbiculari.
The Craſpedarium, with a roundiſh body.

This is an Animalcule of the ſmaller kind. It's ſhape is nearly orbicular, but ſomewhat flatted, and, as it were, truncated ſlightly at the head, and at the oppoſite extremity: it's ſkin is perfectly ſmooth, and very tranſparent; the traces of the inteſtines are beautifully ſeen through it. The hinder extremity appears cloſed, but the anterior one or head has an evidently open and large mouth, ſurrounded by a beautiful fringe or ſeries of ſlender, flexile filaments, which are in continual motion, and by that means draw leſſer bodies, ſuch as the little round animalcules, before deſcribed, and others, about the opening of the mouth, for the readily ſupplying the creature with food. The motions of this Animalcule are languid, and it's general poſture is with the head upwards. The fringe about the mouth is in a continual vibratory motion.

It is frequent in ſhallow, muddy waters; a ſecond magnifier ſhews it diſtinctly.

Craſpedarium corpore ſubovato.
The Craſpedarium, with an oval body.

This is a ſomewhat larger Animalcule than the former, but, if many hundred times bigger than it is, would ſtill be undiſtinguiſhable by the naked eye. It's figure approaches to that of an egg, but it's head is ſituate at the large, not the ſmaller, end: the tail extremity is pointed at it's termination; the other is rounded, but truncated: the ſkin is ſmooth, and very tranſparent, and the traces of the inteſtines are eaſily ſeen. At the larger extremity there is a conſiderable opening, ſurrounded by a ſhort but very thick fringe. The filaments compoſing this are in continual motion, and draw a multitude of leſſer Animalcules continually into the creature's mouth.

It is frequent in that coloured water which runs from large dunghils; a third magnifier ſhews it very diſtinctly.

Craſpedarium corpore cylindrico.
The Craſpedarium, with a cylindric body.

This is of the number of the larger Animalcules. It is oblong, thick, and inflated; it's length is equal to about four times it's diameter; it's ſkin is perfectly ſmooth and colourleſs, and ſo tranſparent, that the traces of the inteſtines are eaſily ſeen: it's hinder extremity is rounded, and it's anterior truncated; there is a large opening viſible at this extremity, which ſerves as a mouth, and is ſurrounded by a ſeries of filaments, forming a long and delicate fringe. Theſe are in continual motion, and, as they vibrate about, reflect a variety of colours: the creature is ſlow in it's motions, nature having provided it with this fringe about it's mouth, to draw in it's food, by the motion it makes in the water, without it's running about in ſearch of it.

It is frequent in rain water, that has ſtood ſeveral days, and in many of the vegetable infuſions.

ANIMALCULES.

Claſs the Second.

CERCARIA.

Thoſe which have tails but no viſible limbs.

BRACHURI.

ANIMALCULES with tails ſhorter than their bodies.

Brachurus corpore orbiculato, cauda breviſſima.
The Brachurus, with an orbicular body, and a very ſhort tail.

This is one of the ſmaller Animalcules. It is of a round ſhape, inflated and tranſparent: it's ſkin is perfectly ſmooth, thin, and colourleſs; the lineaments of the inteſtines are ſeen very diſtinctly through it; it has no viſible mouth: but at the extremity of the body, oppoſite to that which goes forward, it has a ſhort tail ſcarce equal in length to one ſixth of the diameter of the body: this little appendage is in almoſt continual motion, and, when ſtrictly examined, is found to be forked at the extremity. The creature moves very ſwiftly about; and often, when it has fixed itſelf by this tail, gives the body a rotatory motion backwards and forwards, with an almoſt incredible ſwiftneſs.

It is frequent in pond water, particularly in ſuch as has been ſhaded by a covering of duckweed.

Brachurus

Brachurus corpore ovato.
The Brachurus, with an oval body.

This is of the number of the larger Animalcules. It's figure is that of a hen's egg; it's ſkin perfectly ſmooth and tranſparent, ſo that the lineaments of the inteſtines are evidently ſeen through it. It's larger end is the head, and always is directed forward in it's progreſſive motions; at the other, or ſmaller extremity, there is a tail equal to three fourths of the body in length, thicker at it's inſertion, and gradually growing ſmaller from thence to the extremity, where it terminates in a ſingle, not a forked, point. The creature often fixes itſelf by the extremity of this tail; and at other times it's motions are but ſluggiſh.

It is one of the Animalcules, figured by the microſcopic writers, as the inhabitants of pepper-water, and is frequent alſo in many other infuſions of vegetable ſubſtances: it has been ſaid to reſemble the tadpole, but improperly.

Brachurus corpore rotundiore, cauda fimbriata.
The Brachurus, with a roundiſh body, and a fimbriated tail.

This is one of the ſmaller Animalcules. It is of a roundiſh figure, but ſomewhat approaching to an oblong or elliptic; both extremities are of equal bigneſs: it is very tranſparent, yet it is ſcarce poſſible to diſtinguiſh any traces of the inteſtines in it. At the extremity of the body, oppoſite to that which goes forward in the creature's progreſſive motion, and which conſequently is the head, there is a ſhort and tolerably thick tail. It is equal to about half the length of the body, and is all the way of the ſame thickneſs: it is naturally hollowed at the extremity, and by that means alone is capable of being fixed very firmly; but, as if this were not ſufficient for it's ſecurity and other purpoſes, a ſeries of filaments, in form of a fringe, are occaſionally thruſt forth from it, which hold the creature with great firmneſs in it's place. I ſcarce remember a more pleaſing obſervation in the uſe of the microſcope, than has occurred to me, while writing this deſcription. I had the creature before me under the microſcope, and in the ſame drop of water one of the laſt ſpecies of the former genus. This larger Animalcule was vibrating it's fringe about the mouth, and drawing into it the leſſer creatures that came in his way. This ſmaller Animalcule I firſt obſerved attempting, while at ſome diſtance, to force itſelf out of the reach of the current made in the water, by the motion of this fringe; when that was found impracticable, and it was drawn nearer the deſtroyer, it fixed itſelf down by it's tail, in it's uſual naked ſtate; but when this alſo proved fruitleſs, and the motion of the water removed and brought it ſtill nearer the place of deſtruction, it once more fixed itſelf by the tail, and, throwing out it's fringe of filaments, became ſo ſecurely faſtened by their means, that no effort of the enemy afterward could move it.

It is frequent in many of the vegetable infuſions, particularly in that made of the calamus aromaticus root: it requires a ſecond magnifier to ſee it's parts diſtinctly.

Brachurus corpore ſubrotundo, poſterius lunato.
The Brachurus, with a roundiſh body lunated behind.

This is not one of the very ſmalleſt of the Animalcule tribe. It's body, in the whole, ſomewhat approaches to a roundiſh figure, but it is truncated, as it were, at the head, and lunated or formed into the ſhape of a creſcent at the oppoſite extremity, the points or horns of the creſcent pointing downwards; between theſe is placed a ſhort tail, of a conic figure, forked at the end, and in continual motion. The whole Animalcule is colourleſs, and perfectly tranſparent, reſembling nothing more than a thin ſkin filled with water: it is very quick in it's motions.

It is frequent in ditch water, and in rain water that has ſtood expoſed for ſome days; a third magnifier ſhews it very diſtinctly.

Brachurus capite rotundo, corpore ovato in caudam deſinente.
The Brachurus, with a roundiſh head, and an oval body terminating in a tail.

This is one of the ſmaller Animalcules, but it is extreamly ſingular in it's figure. It's head is little and round, and is ſeparated from the body by an evident neck; the body is largeſt at that part where the neck is inſerted, and from thence gradually tapers to the tail, which is not, as in all the other ſpecies, affixed to the body; but the body itſelf, as in the ſerpent and lizard kind, evidently is continued into, and terminates in it. It is pellucid, but of a ſomewhat browniſh colour; the tail is of about half the length of the body, and the head is of about one third of it's bigneſs. It's motions are very quick and various; a ſecond magnifier ſhews it diſtinctly: it's tail is neither forked nor hollowed at the end, but terminates in a point, and ſeems rather of uſe to it in it's motions, than to fix it.

It is one of the Animalcules ſometimes found in pepper-water, and very frequently in an infuſion of creſs-ſeed.

MACROCERCI.

ANIMALCULES with tails longer than their bodies.

Macrocercus corpore rotundo, cauda tenuiſſima.
The Macrocercus, with a round body, and a very ſlender tail.

This is of the number of the ſmaller Animalcules. It's body is of a very regularly orbicular figure, diſtended, and perfectly tranſparent: the ſkin is very thin and colourleſs, and the lineaments of the inteſtines are very viſible: there is no mark to diſtinguiſh the head, but, at that part of the body oppoſite to that which goes foremoſt in the creature's progreſſive motions, there is a tail of at leaſt four times the length of the body, and very ſlender; the creature is not very quick in it's motions.

It is found in great plenty in an infuſion of galangal root, and often in pepper-water.

Macrocercus corpore utrinque anguſtato et truncato, cauda longiſſima.
The Macrocercus, with the body ſmall and truncated at each end, and with a very long tail.

This is an extreamly ſingular animalcule, and is not of the ſmalleſt ſize. It's body is of a figure approaching to elliptic, but runs out into a kind of neck at each extremity much ſmaller than the other part, and is truncated at the end: in the truncated end of the anterior part is probably ſituated the mouth of the animal; from the center of the oppoſite end there grows a ſlender tail, equal to at leaſt eight times the diameter of the body. This is uſually carried ſtraight, but the creature has a power of drawing it up into a convoluted or ſpiral form at pleaſure.

This ſpecies is found in infuſions of cubebs and ginger; ſometimes, but more rarely, in pepper-water.

Macrocercus corpore globoſo, cauda craſſiore.
The Macrocercus, with a round body, and ſomewhat thick tail.

This is one of the very ſmalleſt of the Animalcule claſs. It's body is perfectly globular; it's ſkin ſmooth, white, and gloſſy, but not tranſparent: it's tail is about twice the length of the body, and is conſiderably thick, and in continual motion: the animal itſelf is extreamly briſk and lively.

It is contained in vaſt abundance in the ſemen of the ſtag and goat kind.

Macrocercus, corpore ſubovato depreſſo, cauda extremitatem verſus attenuato.
The Macrocercus, with a ſuboval depreſſed body, with a tail very ſmall toward the end.

This is alſo one of the minuteſt of the Animalcule claſs. The body is of an oval figure, depreſſed or flatted, and ſomewhat larger toward the head, than at the other extremity. It's ſurface is ſmooth and gloſſy; it's ſkin white and ſemitranſparent, and it's tail about ſix times the length of the body; conſiderably thick at it's inſertion, but gradually growing ſmaller towards the extremity, where it terminates in a ſcarce viſible filament.

This is abundant in the human ſemen, and in that of all the monkey tribe. It requires a firſt magnifier to ſhew it diſtinctly.

Macrocercus, corpore longiore ſubcylindrico.
The Macrocercus, with an oblong ſubcylindric body.

This alſo is an Animalcule of the minuteſt kind. The body is oblong, and nearly cylindric, but ſomewhat ſmaller at the hinder extremity: it's length is about three times it's diameter; it's ſurface is perfectly ſmooth; it's ſkin white, and ſemitranſparent: it's tail is very long, thickeſt at it's inſertion, and gradually ſmaller all the way to the extremity: it's motions are very ſwift, and it's tail frequently twiſted and convoluted.

It is found in the ſemen of all the dog kind, as alſo in that of the cat, the hedgehog, the mole, and the bat.

Macrocercus corpore articulato.
The Macrocercus, with an articulated body.

This is alſo of the number of the moſt minute Animalcules. It's body is oblong, and compoſed, as it were, of three or four parts, or articulations, each of a roundiſh figure, and joined in a ſeries to one another; the whole is, in length, equal to three or four times it's diameter, and exhibits much the ſame figure that a ſoft cylindric body of any kind would, if tied round with a thread, in two or three places, at equal diſtances: the tail is of ſix or ſeven times the length of the body, and is very thick at the inſertion, and gradually ſmaller to the extremity. The ſkin of the whole Animalcule is white, ſoft, gloſſy, and ſemitranſparent.

It is found in the ſemen of the horſe, the boar, and ſome other animals.

Macrocercus corpore cylindrico longiore, in caudam tenuiſſimam deſinente.
The Macrocercus, with a very long cylindric body, terminating in a ſlender tail.

This is alſo of the number of the ſmalleſt Animalcules: it's body is long, ſlender, and of a conic figure; it is of ten times it's diameter in length, and is thickeſt at the head, where it appears truncated; and whence it is continued ſmaller and ſmaller to the tail, which is a continuation of the body, is equal to about twice it's length, and is all the way extreamly ſlender, but particularly toward the extremity. The ſkin of the whole is ſmooth, the colour white, and the body ſomewhat tranſparent.

It is found in the ſemen of the toad, and of the lizard, and ſerpent kinds: It requires a firſt magnifier to diſtinguiſh it.

Macrocercus corpore orbiculato depreſſo.
The Macrocercus, with a depreſſed orbiculated body.

This is a very minute Animalcule: it's body is of a rounded figure, but depreſſed or flatted, and it's tail is equal to ten times it's diameter in length: the ſkin of the whole is whitiſh, with a caſt of yellow, ſmooth and gloſſy, but not at all tranſparent: it is very nimble in it's motions; and the tail, which is very ſlender at the extremity, is frequently twiſted about in a very ſurpriſing manner.

It is found in the ſemen of the drone bee, and of many other inſects.

ANIMALCULES.

Claſs the Third.

ARTHRONIA.

Thoſe which have viſible limbs.

SCELASIUS.

AN Animalcule which has viſible legs.

Scelaſius corpore ſubovato.
The Scelaſius, with the body of a ſuboval figure.

This is one of the ſmaller Animalcules: it is of the ſhape of an egg, larger at one end, ſmaller at the other, and rounded at both: it's ſkin is perfectly ſmooth, very thin, of a pale olive colour, and ſo tranſparent, that the lineaments of the inteſtines are eaſily ſeen through it. The whole body, excepting about the head, which is at the ſmaller end, is ſurrounded with a multitude of fine ſhort and ſlender bodies, having the appearance of hairs; but they are in reality ſo many legs, by means of which it creeps along the bottom, or crawls up the ſlender ſtalks of water plants: beſides thoſe which ſurround the body, there is alſo a double ſeries which run down the middle of the belly, from the head to the oppoſite extremity; and, by means of theſe, it will climb up any yet ſlenderer body.

It is very common in ditch water, and is leſs quick in it's motions than moſt of the other animalcules of whatever claſs.

Scelaſius corpore ſubcylindrico utrinque attenuato.
The Scelaſius, with a ſubcylindric body, ſmall at each end.

This is one of the larger Animalcules: it is of an oblong figure, largeſt in the middle, and gradually ſmaller toward each end: it's colour is whitiſh, with a tinge of green: it's ſkin ſmooth, and the whole ſo tranſparent, that the lineaments of the inteſtines are eaſily viſible. It appears hairy all round it's edges; but theſe hairs are ſo many legs, and it has alſo four ſeries of the ſame kind of hairs or legs running along it's belly.

It is frequent in ditch water, among the roots of duck-weed: it's motions are not very quick, but it ſeems in continual ſearch after food: a third magnifier will ſhew the Animalcule very diſtinctly; but, to examine it's limbs, there requires a ſecond, or, indeed, to ſee them in perfection, a firſt.

BRACHIONUS. Wheel Animals.

AN Animalcule which has an apparatus of arms for the taking it's prey. The apparatus, which nature has furniſhed theſe creatures with, has been greatly miſunderſtood by the microſcopical writers; they have ſuppoſed it a kind of wheels, and have thence named the creatures that are poſſeſſed of it wheel animals.

Brachionus corpore conico ſubæquali.
The Brachionus, with a conic even body.

This is one of the ſmaller Animalcules: it appears, when in a ſtate of reſt, in form of a plain ſmooth body, of a conic figure, obtuſe at the poſterior extremity, and open at the anterior, of a duſky olive colour and ſemitranſparent. When it puts itſelf in motion, it protrudes, from the open extremity, a part of it's naked body, to the whole of which this outer conic body ſeems to be but a kind of caſe or ſheath, ſerving it as a defence from injuries. From the extremity of this exerted part of the body; the crea-

ture ſoon after thruſts out two protuberances, which give it the appearance of a double head; and in each of theſe is diſcovered an apparatus in a continual motion, appearing a rotatory one, but, in reality, it is only a vibratory one, very quick repeated. Each of theſe protruded bodies has ſix arms inſerted into it, and theſe it continually ſhuts and opens over one another, in the manner of the ſhutting and opening of the human hand. Each of theſe arms is furniſhed with a double ſeries of fibres at it's edge, which, being expanded, as the arm is thrown down, and drawn in, as it is moved up again, cauſe it to ſpread to a conſiderable breadth, and make a great motion in the water, as it is thrown down; but to make very little reſiſtance, as it is drawn up again: a repeated motion of this kind has, indeed, ſomething of the appearance of that of a wheel, and has all it's effects; it forms a current in the water, and draws in with it multitudes of the ſmaller Animalcules, which ſerve as food to this creature. When it's hunger is aſſwaged, it draws in the protuberances, to which theſe arms are fixed, and, frequently retracting it's whole body into the caſe again, appears a lifeleſs conic body as at firſt.

It is frequent in the dry mud lodged in water-pipes, and on the tops of houſes: it will remain in it's inactive ſtate in this dirt many months, but, at any time, will put itſelf in motion, on adding a drop of water to a little of the dirt under the microſcope. Moſt of the late writers on the microſcopic diſcoveries have figured this Animalcule; but their deſcriptions, ſuch as they are, are ſo very different from what an accurate examination furniſhes, that I would almoſt ſuſpect they were meant of of ſome other creature, did they not agree in the more obvious particulars, and in the ſingularity of the place where it is uſually found.

Brachionus corpore conico toruloſo, cauda tricuſpidi.
The Brachionus, with a conic torulous body, and a tricuſpidate tail.

This is alſo one of the ſmaller Animalcules: It is of a conic figure, but it's body ſeems compoſed of four or five joints: it's length is about five times it's diameter: it's colour a pale brown, and it's ſkin very thin and tranſparent: it's tail is terminated by three points, by means of which, it fixes itſelf very firmly to any ſolid ſubſtance; and from it's other extremity it protrudes occaſionally two protuberances, each furniſhed with ſix arms; by means of which, it makes a current in the water for the getting it's prey.

It is not uncommon in ſtanding waters, about the roots of duck-weed: a ſecond magnifier ſhews it very diſtinctly.

Brachionus corpore breviore campaniformi, cauda brevi.
The Brachionus, with a ſhorter bell-faſhioned body, and a ſhort tail.

This is a very ſmall and very ſingular ſpecies: it is perfectly tranſparent, and ſeems indeed ſcarce any thing more than a membrane of extream fineneſs, incloſing a quantity of a clear fluid, and with it the inteſtines: it is wholly pellucid and colourleſs: it's body is of a bell-like ſhape, but nearly as broad at the baſe, as at the mouth: the tail is ſhort and forked, and grows from the center of the baſe: the mouth is open, and is furniſhed with two of thoſe apparatus's of arms, each compoſed of ſix, which it uſes as the firſt deſcribed ſpecies, to draw it's prey to it, by making a current in the water.

It is frequent in clear waters, about the ſtalks of the ſmaller water plants: it requires a ſecond magnifier to ſhew it in any degree of perfection.

Brachionus corpore breviore campaniformi, cauda longiore.
The Brachionus, with a ſhort campaniform body, and a longer tail.

This alſo is a very minute Animalcule: it's body is very regularly of the ſhape of a bell, narroweſt at the baſe, and broadeſt at the mouth where it opens; and is furniſhed with two apparatus's, each conſiſting of ſix arms, as in the other ſpecies. It is clear, pellucid, and colourleſs, and the lineaments of the inteſtines are eaſily traced through the ſkin; it's tail is many times longer than it's body; and, as the young are produced, they often adhere, by the extremities of their tails, to the parent's tail, and by this means form a cluſter adhering to one another, and ſeeming to be all produced from one original tail or ſtalk at the bottom.

It is frequent in ponds, about the ſtalks of the water plants.

Brachionus corpore latiore inferne lunulato.
The Brachionus, with a broader body lunulated in it's lower part.

This is alſo one of the minuteſt of the Animalcule claſs: it's body is equal in breadth to it's length; it's form is not equally diſtended into a roundneſs, but flattiſh. It's mouth has a very large opening, and there are two of the apparatus's of arms lodged in it, each conſiſting of ſix, as in the others, and uſed for the ſame purpoſes. The lower part of the body is lunated, or formed into a kind of creſcent, the horns of which are very long and point downwards; from the midſt of the body, between theſe, there ariſes a ſhort tail; it is forked at the extremity, and is in continual motion. The whole creature is perfectly pellucid, and of a faint greeniſh colour: It ſeems indeed like the laſt, but compoſed of a more delicate membrane incloſing the inteſtines, and a clear fluid about them, ſeeming the ſame with the circumambient water. All theſe ſpecies, when hungry, vibrate their arms, as deſcribed under the firſt of them, and by this means form a current of water, which brings with it the defenceleſs, and yet more minute, Animalcules into their mouths.

This ſpecies is frequent in ponds in autumn: the green ſcum, which is often driven by the winds at that ſeaſon to the ſhores, contains multitudes of them.

THE

ANIMALCULES

GYMNIA

Enchelides



Enchelis Sp. 1.



Enchelis Sp. 2.



Enchelis Sp. 3.



Enchelis Sp. 4.

Cyclidia



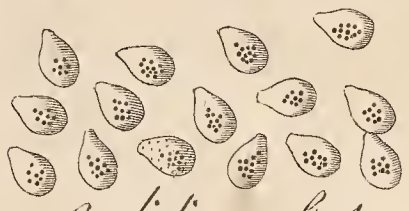
Cyclidium Sp. 1.



Cyclidium Sp. 2.



Cyclidium Sp. 3.



Cyclidium Sp. 4.

Paramecia



Paramecium Sp. 1.



Paramecium Sp. 2.

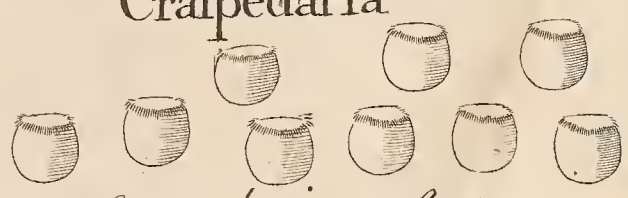


Paramecium Sp. 3.



Paramecium Sp. 4.

Crafpedaria



Craspedarium Sp. 1.



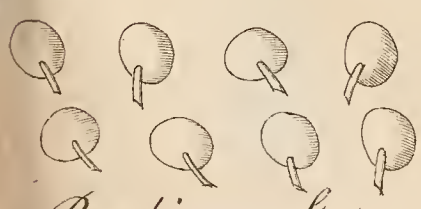
Craspedarium Sp. 2.



Craspedarium Sp. 3.

CERCARIA

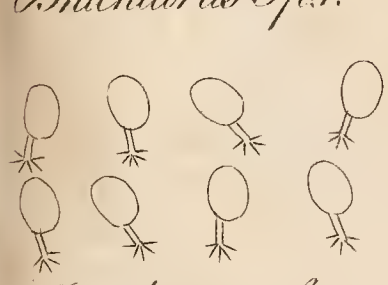
Brachiuri



Brachiurus Sp. 1.



Brachiurus Sp. 2.



Brachiurus Sp. 3.

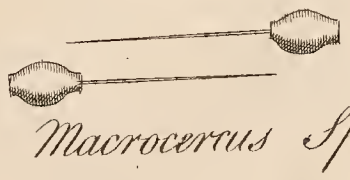


Brachiurus Sp. 4.

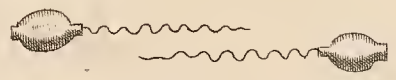


Brachiurus Sp. 5.

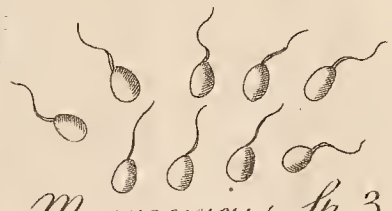
Macrocerci



Macrocercus Sp. 1.



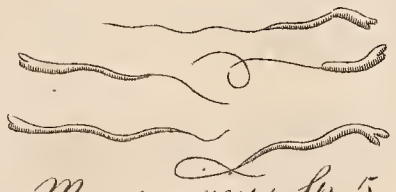
Macrocercus Sp. 2.



Macrocercus Sp. 3



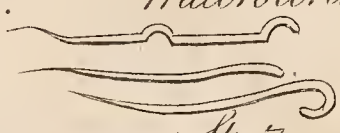
Macrocercus Sp. 4.



Macrocercus Sp. 5.



Macrocercus Sp. 6.



Macrocercus Sp. 7.

ARTHRONIA

Scelafii



Scelasius Sp. 1.



Scelasius Sp. 2.

Brachioni



Brachionus Sp. 1.



Brachionus Sp. 2.

THE HISTORY OF ANIMALS.

PART I.

BOOK II.

Of INSECTS.

INSECTS are animals, whoſe bodies are neither regularly covered with hair, feathers, or ſcales, as in the generality of other animals, but either with a hard, and as it were horny, ſubſtance, or with a ſoft and tender ſkin; and of which the far greater part, that is, all that have a hard covering to their bodies, have on their heads antennæ, or, as they are uſually called, horns or feelers.

Of the Inſects, ſome have no wings, others have: they may hence be conveniently arranged into two ſeries, under the names of Apteria and Pteraria.

INSECTS.

Series the Firſt.

APTERIA.

Thoſe which have no wings.

OF the Inſects of this ſeries, ſome have no limbs, others have: they are, according to this diſtinction, naturally arranged under two claſſes, under the names of Anarthra and Podaria.

APTERIA, *or Inſects having no wings.*

Claſs the Firſt.

ANARTHRA.

INSECTS which have their bodies covered with a ſoft ſkin, and have no limbs.

This claſs comprehends the Inſects commonly called *Worms* and the *Leeches*.

CHÆTIA

THE Chætia is an Inſect reſembling a hair, or a piece of fine thread: it's ſurface is ſmooth; it's body rounded, and very ſlender in proportion to it's length; and it's mouth ſmall and placed horizontally; the jaws are both of the ſame length, and obtuſe at their extremities.

Of this genus there is only one known ſpecies.

CHÆTIA. The Hair-worm, called alſo the Guinea-worm.

This Inſect, when full grown, is ten or twelve inches, or more, in length, and of about the thickneſs of a horſe-hair: it's ſkin is ſmooth and ſomewhat gloſſy, and not at all furrowed: it's colour is a pale yellowiſh-white all over, except the head and tail, which are black and gloſſy.

It is not unfrequent in our freſh waters, and in moſt of the other parts of the world. Geſner calls it Vitulus aquaticus; Merret, Seta aquatica; Linnæus, Gordius; and the medical writers, Dracunculus, and Vena Medinenſis: our common people call it the hair-worm, and imagine it to be an animated horſe-hair. Dr Liſter gives a very particular account of it's origin, and ſays, that he has found many of them alive, in the body of the common black beetle. This is the worm, that, in Guinea and ſome other of the hot countries, gets into the fleſh of the natives, and occaſions great miſchief; though authors in general ſeem not to have found this out: with us, though frequent enough in waters where people bathe, it never attempts this.

ASCARIS.

THE Aſcaris is a ſmall Inſect of an oblong form, ſlender, and covered with a very tender and ſoft ſkin: it's body is of a rounded figure, and is ſmaller at the ends than in the middle.

Of this genus there are but two known ſpecies.

Aſcaris capite minore.
The ſmall-headed Aſcaris. The Aſcarides.

This is a very ſmall worm: it's length is uſually about half an inch; it's thickneſs, that of a ſmall pin; it is of a pale red colour, and ſmooth ſurface; and it's head is ſmall and ſharp, and it's tail pointed; it is of a tender ſtructure, and eaſily cruſhed to pieces and deſtroyed.

It is frequent in the mud at the bottom of rivers, and is ſometimes found in the earth in ſpring, but it periſhes there before ſummer; wherever it is found, it is always in vaſt abundance, cluſters of millions uſually being met with entangled together.

It is one of the worms that infeſt the inteſtines of the human ſpecies, as well as of other animals: it's general place is in the rectum, but it has been found in the vagina of women who have long laboured under a fluor albus, and of girls in a chloroſis.

Aſcaris capite majore depreſſo.
The Aſcaris, with a larger depreſſed head.

This grows to about two thirds of an inch in length: it's ſkin is ſoft and tender; it's colour, a very pale red. It's head is nearly equal, in diameter, to the thickeſt part of it's body; but it's tail is pointed, as in the other ſpecies.

I met with it laſt ſummer in the mud of Mr Apreece's fiſh-ponds at Waſhingley in Huntingdonſhire, and never found it elſewhere.

LUMBRICUS.

THE Lumbricus is an Inſect of the larger kind, of an oblong form, conſiderably thick, rounded in ſhape, and covered with a ſoft and tender ſkin, marked with annular ridges and furrows.

Lumbricus lævis.
The ſmooth Lumbricus.

The Earth-Worm.

This Inſect, when full grown, is often ten inches in length, and more than a third of an inch in diameter. It's colour is a duſky red, and it's ſkin is formed into rings, but is ſmooth and ſoft to the touch.

It is common every-where, at little depths, under the ſurface of the earth; and, in the different periods of it's growth, varies ſo extreamly in colour and external appearance, that people, leſs acquainted with the variations of this kind in animals, have made four or five different ſpecies of it, under the names of the leſſer worm, the brown worm, the pale red worm, the dunghil worm, &c. It is frequent alſo in the human inteſtines, and in thoſe of ſome other animals; and in this ſtate has been ſuppoſed a different ſpecies, and called by a new name. Ray has deſcribed it three times over, as three different ſpecies, under the names of Lumbricus major, Lumbricus minor, and Lumbricus inteſtinorum teres. Every worm has the ſeparate parts of generation of both ſexes, and they riſe out of the earth to copulate; each at the ſame time impregnating the other, and being itſelf impregnated. The moles feed on them, and they are in continual dread of thoſe deſtroyers: hence it is, that on ſtamping upon, or otherwiſe ſhaking, the earth where they are, they crawl out on the ſurface to avoid thoſe creatures, which they ſuppoſe occaſion the motion.

Lumbricus ſcaber.
The rough Lumbricus.

The Sea-Worm.

This ſpecies grows to a foot, or more, in length, and to the thickneſs of a man's finger. It is of a pale red colour, and is compoſed of a number of rings or annular joints, as it were, in the manner of the other; but the ſkin is ſcabrous, and all theſe rings are covered with little prominences, ſo that it is extreamly rough to the touch.

It is an inhabitant of the mud about the ſea-ſhores, and ſerves for food to many kinds of fiſh; I have met with ſurprizingly large ones about the Bognor rocks in Suſſex.

TÆNIA.

THE Tænia is an Inſect of an oblong form; the body is compoſed of evident joints or articulations, in the manner of the links of a chain, or beads of a necklace.

Tænia plana.
The flat Tænia.

The Tape-Worm.

This grows to a ſurprizing length, frequently to that of ſeveral ells. It's body is not rounded, but flat, and is compoſed of articulations of about a third of an inch long each, and of about two thirds of their length in breadth; the ſkin is ſmooth, and the colour is whitiſh.

It is found in the human inteſtines, and in thoſe of many other animals, as well fiſh as quadrupeds. Linnæus found one of them once in the mud of a ſpring, but very probably it had been voided by ſome animal; if that were it's native place, it would be met with oftener there. The medical writers call it Tænia, and Lumbricus latus.

Tænia teres.
The round-bodied Tænia.

This grows to two inches long, though it is more uſually met with of about half an inch or three quarters. It's body is compoſed of a number of articulations, and is rounded and pellucid; the ſkin is extreamly thin and whitiſh.

It is common in the mud of ponds and ditches: I have met with millions of them in the ponds in the iſland in the Park this ſummer.

SICYANIA.

THE Sicyania is an Inſect of an oblong form, flat on the belly, and rounded on the back; it's ſkin ſoft, and it's mouth large, horizontal, and emarginated, or dented in the middle.

Of this genus there is but one known ſpecies.

SICYANIA. The Gourd-Worm.

This grows to two thirds of an inch in length, though it is more uſually met with of not half that ſize: it's breadth is nearly equal to two thirds of it's length; it's ſkin is ſoft and whitiſh, with a tinge of brown; it is flattiſh, but ſomewhat rounded on the back, and has about eight deep longitudinal furrows in two ſeries. The hinder part of it's body is rounded, and the other extremity ſhews a large mouth; it ſomewhat reſembles the ſeed of the common gourd in figure, whence it has been called, by the medical writers, Vermis Cucurbitinus.

It is found ſometimes in the inteſtines, and often in the ſubſtance of the other viſcera, in quadrupeds.

HIRUDO.

THE body of the Hirudo is flatted, but not jointed; and is broader at either end than elſewhere: the ſkin is ſoft and gloſſy.

Hirudo nigreſcens flavo variegata. The common
The blackiſh Hirudo, variegated with yellow. Leech.

This grows to the length of two or three inches; it's ſkin is ſmooth, of a blackiſh colour, and edged with a yellow line on each ſide: it has alſo ſome ſpots of yellowiſh on the back; but both theſe and the lines grow faint, and almoſt diſappear, at ſome ſeaſons. The head is ſmaller than the tail, which fixes itſelf very firmly to any thing the creature pleaſes. It is viviparous, and produces but one young one at a time, which is in the month of July.

This is the ſpecies uſually employed to draw blood; authors call it Hirudo vulgaris, and Sanguiſuga. It is common in ſhallow waters.

Hirudo nigra abdomine plumbeo. The Horſe-
The black Hirudo, with a lead-coloured belly. leech.

This is larger than the former ſpecies: it's ſkin is ſmooth and gloſſy; it's colour, on the back, black, but with a number of pale greyiſh ſpots: the belly is of the colour of theſe ſpots, with a tinge of bluiſh.

It is common in ſhallow ponds.

Hirudo lateribus attenuatis.
The thin-ſided Hirudo. The Snail-leech.

This grows to about an inch in length: it is very flat; it's ſkin ſmooth and gloſſy, and it's colour whitiſh: it's back is very little elevated, and it's ſides thin, and as it were edged.

It

It is common on ſtones, and about the bottoms of puddles. Reaumur calls it Hirudo-Limax, but it has no relation to the ſnail-family.

Hirudo dorſo elevato, cauda latiore.
The high-backed, broad-tailed Hirudo.

The great-tailed Leech.

This grows to an inch and a half in length. It's ſkin is ſmooth and gloſſy; it's colour a duſky brown: it's back is elevated into a kind of ridge, it's belly flat; it's tail is remarkably broad, and it holds very firmly by it.

It is common on ſtones in ſhallow, running waters. Friſch. calls it, Hirudo ore caudaque ampla.

APTERIA,

Or Inſects which have no wings.

Claſs the Second.

PODARIA.

Inſects which have no wings, but have limbs.

Diviſion the Firſt.

Thoſe with oblong bodies and numerous legs, or more than ſix pairs.

IULUS.

THE Iulus is an Inſect of an oblong form, and has the body rounded, not flat. The legs are about a hundred on each ſide; and the eyes are two, and are ſimple, or not compounded of other ſmaller ones.

Iulus fuſcus pedibus utrinque centum.
The brown Iulus, with a hundred legs on each ſide.

The Gally-worm.

This grows to about two inches in length: the body is of a brown colour, and there runs a double line of a ferrugineous hue all along the back; the legs are of a paler brown. The back is rounded, and the belly flat; the whole animal is ſmooth, and ſomewhat gloſſy; the antennæ are ſhort, and are compoſed of five joints; the extream one is of a roundiſh figure.

It is frequent in the North of England, at little depths in the earth. Aldrovand calls it, Solopendra terreſtris minor; Ray, Iulus quartus glaber.

Iulus cinereus pedibus utrinque centum et viginti.
The grey Iulus, with a hundred and twenty feet on each ſide.

This grows to three quarters of an inch in length, and to the thickneſs of a crow-quill. It's back is rounded, it's belly flat; it's colour is a pale grey, but it has two pale ferrugineous lines on the back, and it is ſomewhat paler at the ſides than elſewhere, and every joint of the body is there longitudinally ſtriated; the articulations of the body are about ſixty; the feet are whitiſh; the antennæ conſiſt each of five articulations.

It is found under large ſtones and old trees, but is not common. Ray calls it, Iulo glabro affinis lividis albiſque circulis.

Iulus corpore tenuiore flexuoſo ruber.
The red Iulus, with a thin, flexuous body.

This grows to an inch and half in length: the body is very ſlender, and of a reddiſh colour; the back is but little prominent; the belly flat, ſo that the whole animal

has much of a flat look; it is very nimble in it's motions, and turns and twiſts it's body about with great facility: it's legs are yellowiſh, with a caſt of red, and it has ſeventy on each ſide.

It is frequent at little depths in the earth. Aldrovand calls it, Scolopendra vulgaris ac vera; Ray, Scolopendra valde exilis longa.

There are ſeveral other ſpecies of the Iulus, but they will eaſily be diſtinguiſhed by their names; they are, 1. The long and thick, deep brown Iulus. 2. The little, black Iulus. 3. The little, ferrugineous Iulus. 4. The large, hollow-bellied Iulus. 5. The large, duſky Iulus. 6. The ſhort-legged Iulus.

SCOLOPENDRA.

THE body of the Scolopendra is long, ſlender, and ſomewhat flatted. The eyes are two, and each of thoſe is compoſed of three others; the feet are from twenty to a hundred on each ſide.

Scolopendra exalbida dorſo depreſſo.
The whitiſh Scolopendra, with a depreſſed back.
The white Centipes.

This grows to three inches and a half in length; the body is compoſed of a great number of articulations; the ſkin is tough and whitiſh; the body is of the thickneſs of a ſwan's quill: the back is depreſſed, but the ſides rounded; the legs are very numerous, and conſiderably long.

It is common about the roots of old trees under hedges, and in the earth in dry places. In the Eaſt and Weſt Indies, and in many of the warmer parts of Europe. Aldrovand calls it, Scolopendra major; others, Scolopendra alba vulgaris.

Scolopendra corpore tenuiore fuſco.
The brown, thin Scolopendra.
The brown Centipes.

This grows to more than an inch in length; it's body is flat and thin, and very flexible; it is of a browniſh colour: the legs are ſhort, yellowiſh, and are ſeventy on each ſide.

It is extreamly nimble in it's motions, and is common with us in the earth, and under old logs of wood. Friſch. calls it, Scolopendra longa plana; others, Scolopendra vulgaris.

Scolopendra brevis pedibus variis.
The ſhort Scolopendra, with various legs.

This is a ſmall ſpecies: it's length is about half an inch, it's breadth that of a wheat ſtraw; it is flat, and of a red colour; the body is compoſed of a number of articulations, but they are alternately longer and ſhorter; the legs are only fifteen on each ſide: the anterior ones are ſhort and robuſt; the laſt pair are very long, and give the creature the appearance of a forked tail.

It is found at little depths in the earth, but is not very common. Ray calls it, Ad Scolopendram accedens triginta pedibus inſtructa.

The other ſpecies are, 1. The ſmaller Scolopendra, with twenty legs on a ſide. 2. The great, thick Scolopendra, with twenty legs on a ſide. 3. The great, browniſh Scolopendra, with fifty-eight legs on a ſide. 4. The ſmaller, greyiſh, white Scolopendra. 5. The largeſt, thick-bodied, pale Scolopendra. 6. The large-headed Scolopendra. 7. The deep-furrowed Scolopendra. 8. The ſubmarine, or ſea Scolopendra. 9. The little, oval, white-tailed Scolopendra, no larger than a louſe. Moſt of theſe are inhabitants only of the hotter countries.

ONISCUS.

THE body is ſhort and broad, and approaching to an oval figure: the legs are ſeven or eight on each ſide; the more uſual number is ſeven.

Oniſcus cauda obtuſa bifurca.
The Oniſcus, with a blunt, forked tail.

The common Wood-louſe.

This grows to near half an inch in length, and to about half it's length in diameter. The back is ſomewhat rounded, the belly flat; the colour a bluiſh grey: it runs nimbly, and, on being touched, rolls itſelf up into a kind of ball.

It is common about old trees, and under logs of wood and ſtones. Ray calls it, Aſellus aſininus ſive vulgaris; others, Millepes.

Oniſcus cauda bifida, ſtylis bifurcis.
The Oniſcus, with a bifid tail, and the ſtyles of it forked.

The Water Millepede.

This grows to about half an inch in length; the breadth is nearly a quarter of an inch; the colour a pale browniſh grey, and the whole body ſo thin, that it ſeems tranſparent: there are ſeven joints in it, excluſively of the head and the tail, and they are deeply divided. The articulation at the tail is rounded, flattiſh, and larger than any of the others, and from this there grow two ſtyles, which are each of them divided alſo into two parts at the end: the legs are ſlender, and moderately long; they are of a pale brown, and tranſparent: there are ſeven of them on each ſide, and the hinder ones are longer than the others: the antennæ conſiſt each of three joints.

It is common with us in ponds and ditches, ſometimes in running waters. Authors call it, Aſellus Aquaticus.

Oniſcus cauda obtuſa integerrima.
The Oniſcus, with an obtuſe, undivided tail.

The black Wood-louſe.

This grows to half an inch in length, and is of an oval figure: it is black all over, except that the edges of the ſegments are whitiſh, and there is on each ſide a whitiſh ſpot near the hinder legs: it's ſkin is tough and gloſſy; it runs nimbly, but on the ſlighteſt touch it rolls itſelf up into a kind of ball, and will lie motionleſs a long time: it's legs are ſhort, and it's tail obtuſe, and not at all divided.

It is found about the roots of trees in damp places, but is leſs common than the forked-tailed kind. Ray calls it, Aſellus lividus major.

Oniſcus cauda ſubulata utrinque appendiculata.
The Oniſcus, with a ſubulated tail appendiculated on each ſide.

The Sea Wood-louſe.

This is the largeſt of the Oniſcus kind: it grows to an inch in length, and more than half an inch in breadth, and is of a whitiſh colour: the back is rounded, the belly flat, and the ſides ſharp, and as it were edged: the legs are ſeven on each ſide; the three anterior pairs are ſmall and ſmooth; the four hinder pairs are larger, longer, and ciliated, or hairy at the ſides: there are two pairs of antennæ on the front of the head: the body conſiſts of ſeven joints, beſide the head and the tail: the tail is near three quarters of an inch long; it is undivided, and of a ſomewhat triangular figure, and has two convex parallel rays on it's under ſide.

It is found in moſt of the northern ſeas, but no where more plentifully than on ſome of our own coaſts. I have met with it about the Yorkſhire coaſt abundantly. Ray calls it, Aſellus marinus Cornubienſis alius; others, Oniſcus marinus maximus; Klein, Entomon pyramidale.

PODARIA.

Or Inſects which have no wings, but have limbs.

Diviſion the Second.

Thoſe which have ſhorter bodies, and leſs numerous legs, or fewer than ſix pairs.

PULEX.

THE body of the Pulex is ſhort, of a roundiſh figure, and compreſſed; the legs are three pairs, and are formed for leaping: the eyes are two, and ſimple; the mouth is bent downward.

Of this genus there is but one known ſpecies.

PULEX. **The Flea.**

The body is roundiſh and obtuſe at the end, the head ſmall, and the eyes large: the antennæ are ſhort, and are compoſed of four joints; the legs are long, robuſt, and thick toward the inſertion, ſlender and ſomewhat hairy toward the extremities: the colour is a deep purple, approaching to black. Hook has given an excellent microſcopic figure of it, which has been copied by moſt of that kind of writers ſince.

It is not peculiar to man, or to quadrupeds; it is very frequent in ſwallows neſts, and on the bodies of ſome other young birds. Authors call it, Pulex vulgaris, and Pulex ater.

PODURA.

THE body is ſhort and roundiſh; the tail is crooked, forked, and of uſe in the leaping motion of the creature: the legs are three pairs, and ſerve only for walking: the eyes are two, but each of them is compoſed of eight others.

This genus comprehends the Pucerons of Reaumur, and other of the French writers.

Podura viridis corpore ſubovato. **The common Puceron.**
The green Podura, with an oval body.

This is about the bigneſs of a common flea; it's colour is uſually a bright green, ſometimes a darker, or bluiſh green; the body approaches to an oval figure, and is largeſt and moſt convex in the hinder part: the thorax is very ſmall; the head is obtuſe and green: the eyes are very conſpicuous; they are bright, and of a deep black; they ſtand prominent in the front of the head, and there runs alſo near them a black line on each ſide. The legs are very ſlender, and of a whitiſh green, and are all of the ſame length: the antennæ are crooked.

It is frequent on the ſtalks of the common atriplex, and many other plants and ſhrubs, covering the whole branches in innumerable multitudes. Authors have called it, from it's reſemblance to the common flea, Pulex viridis plantarum; the French, Puceron.

Podura antennis longioribus. **The Toadſtool Puceron.**
The Podura, with long antennæ.

This grows to the ſize of a ſmall grain of wheat: it's body is ſhort and roundiſh; it's ſkin gloſſy and black; it's anus forms a remarkable protuberance in the hinder part: the head is ſmall, the eyes arevery minute, and the antennæ are equal to the body in length, and are black, but tipped with white at the end.

It is common in our woods on the larger fungi. Linnæus calls it, Podura atra abdomine ſubgloboſo, antennis longitudine corporis apice albis.

Podura cinerea nigro variegata.
The grey and black Podura.

The Currant Puceron.

This is ſomewhat larger than a flea: it's body is of an elliptic form; it's head ſmall, it's eyes little, but very bright, and it's legs very ſlender, and the antennæ are long: it's colour is grey, but it is variegated with lines and ſpots of black.

It is frequent on the currant buſh.

Podura nigra pedibus albis.
The black Podura, with white legs.

This is a very ſmall ſpecies: it's body is roundiſh, and of a deep black: it's head ſmall, and it's eyes ſcarce diſcernible: the legs are ſhort, ſlender, and white, and the fork of the tail is alſo white.

It is common in our woods about old beeches. De Geer calls it, Podura arborea nigra pedibus furcaque albis.

Podura nigreſcens antennis brevibus.
The black Podura, with ſhort antennæ.

The Water Puceron.

This is of the ſize of a ſmall flea, and reſembles it in colour, being black and gloſſy, but with ſomewhat of a tinge of purpliſh: it's body is roundiſh; it's head is ſmall; it's eyes very little; it's legs are longer than in moſt of the other ſpecies, and it's antennæ ſhort.

It is common in ponds, and other ſtanding waters; the ſurfaces of which are ſometimes, in calm days in autumn, almoſt covered with the multitudes of it. De Geer calls it, Podura aquatica nigra.

The other ſpecies of the Podura are very numerous; they are, 1. The Podura with antennæ, conſiſting of many numerous joints. 2. The ſhort-horned Podura. 3. The round-bodied, bright Podura. 4. The long-bodied, larger Podura. 5. The cottony, or downy Podura. 6. The long-legged Podura. 7. The lead-coloured Podura. 8. The ſmall, black-legged Podura. 9. The very ſmall, white Podura. 10. The ſhort-bodied, blue-green Podura. 11. The duſty, greyiſh Podura. 12. The ſhort-tailed Podura. 13. The ſpreading-tailed Podura. 14. The large-headed Podura. 15. The long and ſlender-legged Podura. 16. The ſlender-horned Podura. 17. The larger water Podura. 18. The long-bodied, bluiſh, water Podura. 19. The ſubterranean Podura. Moſt of theſe ſpecies are very common with us on the branches of various ſhrubs and plants, and in our ditches and clear ponds.

PEDICULUS.

THE body of the Pediculus is lobated at the edges or ſides: the legs are ſix, ſerving only for walking, the creature having no power of leaping: the eyes are two, and are ſimple.

Pediculus capitis.
The Pediculus of the head.

The common Louſe.

The body of this hateful Inſect is oblong and lobated, or deeply indented around the ſides: the colour is whitiſh, often ſtreaked or ſpotted with black: the legs are ſhort, and each is armed with two claws at the extremity: the antennæ are ſhort and jointed; the head is large, and the eyes are ſmall and black.

It's moſt natural place of habitation is in the heads of children, but it will infeſt grown people who are naſty, and will deſcend from the head to the body. It is a miſtake to ſuppoſe thoſe of the body of a different ſpecies; they are only a variety, and are of the ſame origin with the others. Authors call it Pediculus, and Pediculus vulgaris.

Pediculus pubis.
The Pediculus of the pubes. **The Crab-louſe.**

This is ſmaller than the common louſe: the body is ſhorter, and leſs deeply lobated: the legs are ſhort and ſlender; the head is oblong; the antennæ are ſhort, and the eyes are ſituated behind them: the hinder part of the body is covered with ſilvery hairs.

It's natural reſidence is about the pubes, but it will live any where, if there is hair, as in the eye-brows and on the breaſt, and, when once fixed, is very difficultly diſlodged. Authors call it Pediculus ferus, Pediculus inguinalis, and Pediculus morpio.

Pediculus ligni antiqui.
The Pediculus of old wood. **The Death-watch.**

The body is oblong, flattiſh, and of a pale browniſh white, but there is a brown annular mark on it, and a brown ſpot behind toward the anus: the head is oblong; the eyes are large and yellow; the antennæ are of the length of the whole body; the ſize is about that of the common louſe, and there are ſpots all down the ſides, of a reddiſh colour, one on every ſegment of the body.

It is common in decayed wood that is kept dry, and in old books. Blancard calls it Pediculus ligni; Ray, Pediculo cognatus et adſimilis. The female makes that odd noiſe, which reſembles the beating of a watch, as ſhe wooes the male: the male alſo makes it in return, and ſometimes begins it himſelf.

Pediculus adonidum.
The ſtove Pediculus **The Stove-louſe.**

The body is of an oblong, oval figure, and of a whitiſh colour; the tail is bifid; the ſides are thin and ſharp, and there is a prominent ſpot on the edge of each ſegment: the line carried along the back is elevated, and has an obſolete protuberance at every diviſion, and there are the ſame number of ſpots in the ſpaces between that line and the ſides: the legs are ſlender and brown; the antennæ are alſo ſlender, and of the ſame colour.

It is common on the branches of ſhrubs and plants in our ſtoves.

Beſides theſe, there are a great many others which are peculiar to the bodies of the different ſpecies of birds and quadrupeds. Redi has accurately deſcribed and figured many of theſe; they are named, from the bodies of the animals they are found on, Pediculus bovis, Pediculus corvi; the Louſe of the ox, the Louſe of the raven, &c.

The moſt ſingular of theſe are, 1. The Pediculus of the bear. 2. The Pediculus of the lion. 3. The Pediculus of the opoſſum. 4. That of the wild cat. 5. and 6. The larger and ſmaller of the ox. 7. That of the hawk. 8. That of the thruſh. 9. That of the turkey. 10. That of the crane. 11. That of the hen. 12. That of the hedge-ſparrow; theſe all vary in their forms, as do alſo thoſe which infeſt other ſpecies of animals, and are indeed as diſtinct as thoſe animals; but to figure and deſcribe them all would be to make this volume a hiſtory of Lice, not of Inſects in general.

MONOCULUS.

THE body is ſhort, of a roundiſh figure, and covered with a firm cruſtaceous ſkin: the fore legs are ramoſe, and ſerve for leaping and ſwimming: there is but one eye whch is large, and is compoſed of three ſmaller.

Moſt of the ſpecies of this genus are reckoned by authors among the microſcopic animls, but improperly; they are ſufficiently viſible to the naked eye.

Monoculus

Monoculus antennis quaternis, cauda rectâ bifidâ.
The Monoculus, with quaternate antennæ, and a ſtraight bifid tail.

The cruſtaceous Water Inſect.

The creature is very ſmall, and uſually of a browniſh, ſometimes of a reddiſh, colour: the body is oblong, approaching toward an oval figure, but ſmaller toward the tail: it has two pair of antennæ; the tail is long, ſlender, and forked, and under this, on each ſide, there is frequently ſeen a large cluſter of eggs; the ovaries, in which theſe are contained, are of a yellowiſh colour, and together are often equal to the whole body of the Inſect in bigneſs: the eye is large, black, and ſituated in the very middle of the head.

It is frequent in our ditches, and other ſtanding waters.

Monoculus antennis capillaceis multiplicibus, teſta bivalvi.
The Monoculus, with multiple and capillaceous antennæ, and a bivalve ſhell.

The teſtaceous Water Inſect.

The ſhell, with which this creature's body is covered, is of an oblong, ovated figure, and of a duſky brown colour: when taken out of the water, it ſhuts cloſe up, and reſembles the ſeed of ſome plant; when put into the water again, it opens in the manner of the bivalve ſhells of the ſhell-fiſh, and the antennæ appear from one end of the aperture, the legs from the other: the eye is ſingle, large, and black; it's motion is very ſwift.

It is common in our ditches, and other ſtanding waters.

The other ſpecies of the Monoculus are, 1. The crooked-tailed Monoculus, with dichotomous antennæ, commonly called, after Swammerdam, the Pulex aquaticus arboreſcens: this is ſmall, of a blood-red, and is ſo numerous in ſtanding waters at ſome times, as to give a red colour to the whole ſurface of them; and this has been called turning water into blood, and has been eſteemed a portent. 2. The Apus of Friſch, or the Monoculus with a biſetous tail. 3. The ſhort dichotomous, horned Monoculus, with the flat back. 4. The long-bodied Monoculus. 5. The little-eyed Monoculus. 6. The ſhort and multifid-tailed Monoculus.

ACARUS.

THE body of the Acarus is ſhort and rounded: the eyes are two; the legs are eight in number, and each conſiſts of eight joints.

Moſt of the ſpecies of this genus have been alſo arranged among the microſcopic animalcules, but with no reaſon; they are all ſufficiently viſible to the naked eye. The term Acarus is not to be underſtood in this ſenſe, as reſtrained to the Inſect commonly underſtood by it, the Mite: that animal is poſſeſſed of characters in common with a great number of other Inſects, which have been called by other names, but which are all connected by nature, and are therefore of the ſame genus; ſome of them have been called ſpiders, others lice, and others by other names, referring them to genera, to which they have as little alliance in nature as to theſe. The genus, on bringing theſe back to it, appears a very numerous one, and conſiſts of ſome which are inhabitants of the earth, ſome of waters; ſome which live on trees, others among ſtones, and others on the bodies of other animals, and even under their ſkin.

Acarus caſei.
The Acarus of cheeſe.

The Cheeſe-mite.

This is a very ſmall ſpecies; the body is roundiſh, but ſomewhat ovated; the ſkin whitiſh and ſmooth; the head is ſmall; the legs and the parts about the mouth are ſomewhat browniſh, and of a firm, teſtaceous ſubſtance, not ſoft like the other parts, and there are ſome long hairs on the body.

It is common in cheeſe, in flour, and in many other ſubſtances. Authors call it, ſimply, Acarus.

Acarus ovinus.
The Acarus of the ſheep. **The Sheep-tick.**

The body is flat, of a roundiſh figure, but ſomewhat approaching to oval, and of a yellowiſh white colour, and has a ſingle large round ſpot on the back: the anus is viſible in the lower part of the body; the thorax is ſcarce conſpicuous; the head is very ſmall and black; the mouth is bifid: the antennæ are of a clavated figure, and of the length of the ſnout; the legs are ſhort and black. The animal, in the whole, much reſembles the common dog-tick; but it's ſnout is longer, and it's body never becomes ſo diſtended as that of the other with ſucking, but always continues flat.

It is common on ſheep, and it's excrements ſtain the wool green: it will live in the wool many months after it is ſhorn from the animal. Charleton, Mouffet, and others call it Reduvius.

Acarus Inſectorum rufus ano albicante.
The brown Acarus of Inſects, with a white anus. **The Louſe of the beetle.**

This is an extreamly minute Inſect; it's body is round, reddiſh, and covered with a firm and hard ſkin; the head is very ſmall, the neck ſcarce viſible; the legs are moderately long; the anterior pair longer than the others: it has a whiteneſs about the anus.

It is frequent on the bodies of many Inſects, which it infeſts as the louſe does others; it runs very ſwiftly: the humble-bee, and many other of the larger Inſects, are continually infeſted with it; but none ſo much as the common black beetle, which has thence been called the louſy beetle. Liſter calls it, Pediculus ſubflavus ſcarabæis infeſtus; Blankard, Pediculus Inſectorum volatilium; in the Acta Upſalienſia, it is much more properly named Acarus Inſectorum.

Acarus arboreus ruber diſtentus.
The red, diſtended, tree Acarus. **The ſcarlet-tree Mite.**

This is a ſmall ſpecies; the body is roundiſh, and the back not at at all flatted, as it is in many others; the ſkin is ſmooth, ſhining, and gloſſy, and the whole animal ſeems diſtended, and ready to burſt; the colour is a bright red, but a little duſkier on the ſides than elſewhere: the head is very ſmall, and the legs ſhort: there is on each ſide a ſmall duſky ſpot near the thorax, and a few hairs grow from different parts of the body.

It is very common on trees, particularly on the currant, on the fruit of which we frequently ſee it running.

Acarus petrarum ruber antennis longioribus.
The red, ſtone Acarus, with long antennæ. **The Stone-mite.**

This is very ſmall, and of a bright red colour; the body is round and diſtended; the head is very ſmall and pointed; the legs are moderately long, and of a paler red than the body: the antennæ are much longer than in any other ſpecies. In the greater number of the others, indeed, they are ſcarce conſpicuous; theſe alſo, and the mouth, are of the ſame pale red with the legs.

It is frequent about old ſtone walls and on rocks, and runs very nimbly.

Acarus aquaticus ruber abdomine depreſſo.
The red water Acarus, with a depreſſed body. **The ſcarlet Water Mite.**

This is a ſmall ſpecies: the body is of a figure approaching to an oval, and the back appears depreſſed; it is of a bright and ſtrong ſcarlet colour. The head is ſmall; the legs are moderately long and firm, and are of a paler red than the body.

It is common in ſhallow waters, where it runs very ſwiftly along the bottom; Friſch. calls it, Araneus aquaticus ruber parvus; Charleton, Bupreſtis araneolæ.

Acarus ſcabiei.
The itch Acarus.

The Itch Animal.

This is a very ſmall ſpecies; it's body is of a figure approaching to oval and lobated; it's head is ſmall and pointed; it's colour is whitiſh, but it has two duſky ſemicircular lines on the back. The legs are ſhort and of a browniſh colour, and are harder than the reſt of the body, and as it were cruſtaceous.

It is found in the puſtles of the itch: authors in general have ſuppoſed it cauſes that diſeaſe; but, if this were the cauſe, it would be found more univerſally in thoſe puſtules. It is more probable that theſe only make a proper nidus for it.

Acarus pedibus primi paris cheliformibus.
The Acarus, with the firſt pair of legs cheliform.

The Scorpion Inſect.

This is a ſmall ſpecies: it's body is roundiſh and inflated, of a whitiſh colour, and covered with a thin and ſmooth ſkin: the head is very ſmall, and of a duſky colour toward the mouth. The legs are ſhort, and the fore pair have claws like thoſe of the crab or ſcorpion.

It is common in old rotten wood that is kept dry in old houſes. Friſch. calls it, Scorpio araneus.

Acarus terreſtris ruber abdomine depreſſo.
The red land Acarus, with a depreſſed body.

The little ſcarlet Spider, or Tant.

This is a ſmall ſpecies: it's body is roundiſh, but a little approaching to oval; the back ſomewhat depreſſed: it is of a fine ſcarlet colour, and covered with a velvety down. The head is very ſmall; the eyes are two and very ſmall; the legs are ſhort and of a paler red, and there is a ſmall black ſpot near the inſertion of the anterior ones.

It is very common under the ſurface of the earth, and ſometimes on herbs and among hay. It is ſuppoſed to be poiſonous, if ſwallowed, but we don't ſeem to have any certain account of ſuch an effect. Liſter and others call it, Araneus coccineus exiguus.

Acarus pedibus longiſſimis.
The long-legged Acarus.

The Long-legged Spider, called the creſted, or Shepherd-ſpider.

This is the largeſt of the Acarus kind: it's body is roundiſh, of a duſky brown on the back, with a duſkier ſpot of a rhomboidal figure near the middle of it: the belly is whitiſh; the legs are extreamly long and ſlender. On the back part of the head there ſtands a little eminence, which has on it a kind of double creſt, formed as it were of a number of minute ſpines: the eyes are ſmall and black, and are two in number.

It is very common in our paſtures, towards the end of ſummer. Ray and Liſter call it, Araneus criſtatus longipes; Mouffet, Araneus longipes; and, notwithſtanding it's having but two eyes, it has been almoſt univerſally ranked among the Spiders.

The other ſpecies of the Acarus are, 1. The muſhroom yellow Acarus. 2. The little black garden Acarus. 3. The Acarus, called the louſe of the ſtarling. 4. The pine-tree Acarus. 5. The dog Acarus, or dog tick. 6. The holly-oak Acarus. 7. The grey rough earth Acarus. 8. The variegated ſtone Acarus. 9. The brown-backed willow Acarus. 10. The brown ſtone Acarus, with ſcarlet legs. 11. The gregarious muſhroom Acarus. 12. The ſea Acarus. 13. The great Acarus, or great fly louſe. 14. The very ſmall fly louſe. 15. The knotty legged Acarus, found on old trees. 16. The marginated-ſided, ſtone Acarus. 17. The greeniſh white Acarus of the lime-tree.

ARANEA.

THE body of the Aranea is ſhort and of a roundiſh, oval, or elliptic figure: the eyes are eight in number, and are placed on the hinder part of the thorax: the legs are eight in number, and the creature has a power of ſpinning.

The ſpecies of Aranea, or Spiders, are very numerous; but authors have made them yet more ſo, by admitting among them Inſects of very different genera. Liſter has been very accurate in his deſcriptions, but he has taken in ſome of the Acari, &c. into the number: 'tis odd, that ſo ſtriking a character, as the eight eyes of the Spider, ſhould not exclude Inſects that had but two.

Aranea corpore longiuſculo argenteo vireſcente.
The long and ſilvery-green-bodied Aranea.

The green Spider.

This is one of the moſt ſingular of the Spider claſs: it is moderately large; it's body is longer and ſlenderer than that of any other ſpecies, and is of a ſilvery green colour, with an admixture of yellow, variegated with lines, ſtrokes, and ſpots of black on the back; and with a black line yellow at edges, running all along the belly. It's legs are long and ſlender, and are generally protended horizontally.

It is common in damp woods, where it ſquats down, as it were, on the branches of trees, and throws four of it's legs forward, and four backward, extending them ſtraight along the bough. I have often met with it in Charlton wood near Woolwich. Liſter calls it, Araneus ex viridi inauratus alvo longiuſcula prætenui.

Aranea livida abdomine ovato aquatica.
The bluiſh, oval-bodied, water Aranea.

The great Water Spider.

This is a Spider of the larger kind: it's body is oval, and, as it were, truncated at the tail: it is of a bluiſh black, and has a tranſverſe line and two ſpots toward the bottom, all hollowed in it. The legs are long, and the joints large: it is furniſhed at the head with a very terrible weapon, a hard black forceps, vaſtly larger than any of the European ſpiders have it, and wholly reſembling that of the tarantula; it will lay hold of any thing very firmly with this; whether there be any thing poiſonous in the wound it inflicts is not known.

It is found in ſtanding waters, but is not common; it walks on the mud at the bottom of them: I have met with it in ſome ponds in Eſſex near Thorndon, and once in the Serpentine river in Hyde-park.

Aranea abdomine ovato hirſuto, cruribus craſſiuſculis.
The oval hairy-bodied Aranea, with thick legs.

The Tarantula.

This is one of the large Spiders, but is not the very largeſt known: it's body is three quarters of an inch long, and of the thickneſs of one's little finger. It is uſually of an olive brown, variegated with a duſkier colour; but in this it varies greatly: it is covered with a ſhort and ſoft down, or hairineſs: the points of it's forceps are very fine and ſharp: as to the effects of the poiſon they convey into the wound they make, there ſeems yet room for much explanation about it.

This ſpecies is a native of Apulia: the generality of writers call it the Tarantula, and Araneus tarantula dictus.

Aranea corpore oblongo nigro aquatica.
The oblong-bodied black water Spider.

The leſſer Water Spider.

This is a large Spider: the body is of an elliptic figure, and black; a white line runs along each ſide, from the thorax to the tail, where the two meet: the anus is bifurcated: the legs are long, and of a greyiſh brown.

It is frequent about waters, but it only ſkims along upon the ſurface of them.

Aranea

Aranea abdomine flavo, annulo ovali dorsali rubro.
The yellow-bodied Aranea, with a red and oval mark on the back.

The red and yellow Spider.

This is a very singular and very beautiful species: it's body is of an oval form, and about the size of that of the common blue fly; but it is of a beautiful whitish yellow, with an elegant circle, or rather oval mark of red, upon the back: the legs are long, slender, whitish, and transparent, and the joints of the first pair are black; and there runs along the center of the oval mark a brown line.

We have it in our hedges, but not common: it spins a large, but not very close, web. Lister calls it, Araneus albicans corona coccinea in alvo ovali.

The other species of spiders are, 1. The great brown Phalangium, with the thick forceps. 2. The largest yellowish Phalangium, with the very sharp forceps. 3. The great tawny Spider, with thick legs. 4. The long and slender-legged great Spider. 5. The vast pale brown Spider. 6. The vast variegated Spider. These are all natives only of hotter countries. 7. The common dark house Spider. 8. The great field Spider, with the brown and white body. 9. The great red-bodied Spider, with the white cross. 10. The yellow and white-bodied great Spider. 11. The grey wood Spider, with a triquetrous body. 12. The green and yellow Spider, with black spots. 13. The grey-bodied Spider, variegated with white. 14. The smooth, black-bodied Spider, with the white cross. 15. The yellow-bodied Spider, with white spots. 16. The middle-sized variegated field Spider. 17. The elegantly variegated wood Spider. 18. The black-bodied Spider, with the tops of the legs variegated. 19. The grey Spider, with undulated lines at the insertions of the legs. 20. The brown and variegated Spider, with foliaceous lines. 21. The little grey Spider, with a black spot on the hips. 22. The little bluish Spider, with a denticulated spot at the hips. 23. The long-legged, yellow, hairy Spider. 24. The great grey Spider, with very prominent appendages at the anus. 25. The dusky Spider, variegated with a bright white. 26. The black Spider, with denticulated white spots. 27. The great blackish Spider, variegated with spots of a deeper black. 28. The grey, softer, woolly Spider. 29. The plain-yellow, or livid Spider. 30. The square, spotted, yellow Spider. 31. The large, black, hunting Spider. 32. The brown Spider, with an obliquely streaked belly. 33. The long-bodied, yellow Spider. 34. The long-bodied livid Spider, with undulated variegations. 35. The brown, slow Spider. 36. The gold yellow Spider, variegated with brown. 37. The grey Spider, with black and silvery white spots. 38. The reddish brown Spider, with white variegations. 39. The green-eyed yellow Spider, variegated with a deeper yellow. 40. The reddish Spider.

SCORPIO.

THE body of the Scorpio is of a figure approaching to oval; the tail is long and slender; the whole covered with a firm and somewhat hard skin: the eyes are eight in number; two of them are placed contiguous, and six sideways. The legs are eight, and there are also a pair of claws at the head, and a pointed weapon at the extremity of the tail.

Scorpio e fusco flavescens, pectinum denticulis octo.
The great yellowish Scorpio, with eight denticulations.

The Barbary Scorpion.

This species, when full grown, measures six or seven inches in length; those of four or five inches are common: it's body is covered with a firm skin, of a brownish colour, but with a great deal of a yellow, or flame colour, in it. The body is of an oval figure, and is terminated anteriorly by the head, which is continuous with it: the eyes are small: the legs are eight, and are not very strong; each leg is composed of six joints, and is terminated by a pair of sharp claws; the legs are paler than the body, and have a few hairs on them: the claws arise, one from each side of the thorax near the head; they are large, black, and much resemble the claws of crabs; each is composed of four joints. The body is also composed of a number of joints, divided by denticulations, as is also the tail: this has it's insertion at the extremity of the body,

oppoſite to the head, and it's laſt joint is terminated by a pointed weapon bent downward.

This ſpecies is a native of Africa: it's wound is of very bad conſequence; authors call it Scorpio Barbarus.

Scorpio fuſcus, pectinum denticulis triginta.
The brown Scorpio, with thirty denticulatious.

The Italian Scorpion.

This, when full grown, is about an inch and a quarter long: it's colour is a duſky brown, often almoſt blackiſh; it's body is oval, and it's tail longer in proportion than in the larger ſpecies.

It is a native of Italy, and of many of the warmer parts of Europe: I had one brought to me a few years ago, which the perſon who had it, aſſured me, he killed in Cane-wood, near Hampſtead-heath; but 'tis the firſt time England has been ſuppoſed to produce them. Authors call this Scorpio minor, and Scorpio Italicus.

The other ſpecies are the large brown Indian Scorpion, with thirteen denticulations. 2. The ſmaller Indian Scorpion, with fifteen denticulations. 3. The large African Scorpion, with eighteen denticulations. 4. The black African Scorpion.

SQUILLA.

THE Squilla has ten legs, the foremoſt pair cheliform, or made for pinching and holding things: the eyes are two, and the tail is foliated.

Theſe are the characters of the Shrimp; and they are the characters alſo of the hermit, the cray-fiſh, the lobſter, and the crab: it may appear odd, to thoſe leſs acquainted with the characteriſtics of natural genera, to find the crab made a ſpecies of ſhrimp, or either that, or the lobſter, introduced among the Inſects; but nature has been pleaſed to connect them, and we have no right to diſjoin them.

Squilla macroura, roſtro ſupra ſerrato, ſubtus tridentato.
The long-tailed Squilla, with the ſnout ſerrated above, and tridentated below.

The common Shrimp.

The body is oblong and rounded above; the tail long, the colour whitiſh, and the legs long; the beak, or ſnout, diſtinguiſhes it from all the other ſpecies: it is long, of a lanceolated figure, ſharp-pointed, and has eight denticulations above, and three below.

It is a native of our ſeas, in vaſt abundance; authors call it Squilla, Squilla fuſca, and Squilla vulgaris.

Squilla macroura roſtro integerrimo.
The long-tailed Squilla, with a ſmooth ſnout.

The ſmooth-noſed Shrimp.

This grows to the ſame ſize with the common ſhrimp, and reſembles it ſo greatly, that it has been generally taken for the ſame ſpecies: the body, however, is thicker, and the ſnout is very ſhort, and is ſmooth, wholly without the ſpines or denticulations of the other.

It is frequent in our ſeas with the other, and they are brought to market together.

Squilla macroura cauda molli, chela dextra majore.
The long-tailed Squilla, with a ſoft tail, and the right claw the larger.

The Hermit.

This grows to two inches and a half in length: the body is thick and firm; the tail ſlender, and covered with a tender ſkin. The legs are ſlender and long; the anterior ones have claws on them, like the common crabs, or lobſters claws, but that on the right, is always the larger: the creature ſeeks ſome wilk, or other ſhell, deſerted by it's original inhabitant; and, introducing it's tail into it, fixes in the habitation, and draws it after it: the tail is always within the ſhell, and is ſo firmly fixed, that it would induce any

any body unacquainted with theſe things, to believe it a part of the animal; when it pleaſes, it can draw in the whole body, and it then continues to ſtop up the opening of the ſhell with the larger claw, and lies retired from miſchief.

It is common in our ſeas; the oyſtermen at Feverſham dredge up great numbers of it: authors call it Cancellus; and Bernhardus, Eremita; we, frequently, Bernard the hermit.

Squilla macroura roſtro ſupra ſerrato, baſi utrinque dente ſimplici.
The long-tailed Squilla, with the ſnout ſerrated above, and with a ſingle denticulation at the baſe.

The Cray-fiſh.

This greatly approaches to the figure of the common lobſter: it's length, with us, when well grown, is about three inches and a half: it's body, about three quarters of an inch in diameter; but, in ſome other countries, it grows vaſtly larger, though the ſpecies be evidently the ſame: it's ſhell, or covering, is firm and ſtrong: it's legs long and ſlender; and it's tail thick.

It is a native of freſh waters, particularly of our clear brooks: authors call it Aſtacus fluviatilis; Matthiolus and Bellonius, Gammarus.

Squilla brachyura corpore verrucoſo aculeato.
The ſhort-tailed Squilla, with a warty and prickly body.

The Wart-crab.

This grows to the ordinary ſize of the common crab: it's body, however, is always ſmaller, in proportion to it's legs and claws, than in that: the ſhell is hard; the colour whitiſh, with ſome admixture of brown, of red, and of black: the body is covered with large, rough, and irregular wart-like protuberances, and the legs, all over, except the tips of the claws, are covered with larger protuberances, which terminate in points, forming a kind of ſhort and very robuſt ſpines.

It is a native of the Eaſt and Weſt Indian ſeas, and is caught alſo about ſome of the ſhores of Europe; authors call it Cancer verrucoſus.

Squilla brachyura cruribus longiſſimis.
The long-legged, ſhort-tailed Squilla.

The Spider-crab.

This is a very ſmall ſpecies: the body is of an oval figure, and covered with oblong, but not very numerous, ſpines: the legs are very ſlender, and like thoſe of a ſpider, and are equal to five times the diameter of the body in length: they terminate in long, ſlender, and ſharp points; and the claws of the anterior ones are no thicker than the points of the others, only double.

It is a native of the Eaſt Indies, and many other places: authors call it Cancer arachnoides.

Squilla clypeata.
The buckler Squilla.

The Molucca-crab, or King-crab.

This is the moſt ſingular animal of all this genus: it's body is covered with a hard and firm ſhell of a duſky browniſh colour, and of a figure approaching to oval, but truncated at the lower end: it is compoſed, as it were, of two parts; the edge of the upper is ſmooth and even; that of the under, ſpinoſe: the body of the animal is ſmall, in proportion to this immenſity of ſhell, and the legs are ſhort: the tail is inſerted in the center of the truncated part of the ſhell, and is very long, ſlender, and pointed at the end.

It is a native of the ſeas, about the Molucca's: authors thence call it Cancer Moluccenſis.

The other ſpecies of this genus are numerous; they may be conveniently arranged under three ſubdiviſions. 1. The ſmaller long-tailed Squillæ, which are the ſhrimp kind. 2. The larger long-tailed Squillæ, which are the lobſter and cray-fiſh kind. 3. The ſhort-tailed, or crab kind.

Of the firſt diviſion, or ſhrimp-kind, we have, beſide the ſpecies already deſcribed, only three known ones. 1. The larger, long-ſnouted ſea Squilla. 2. The ſmaller, narrow-ſnouted ſea Squilla. 3. The freſh-water ſmall Squilla.

Of the ſecond, or lobſter kind, we have, 1. The common lobſter. 2. The thick-horned, ſlender-bodied Lobſter. 3. The ſhort and broad-bodied Lobſter. 4. The great ſea Cray-fiſh. 5. The very long-bodied Lobſter. 6. The ſmall-bodied Lobſter.

Of the crab kind, there are, beſide the already deſcribed, 1. The common large Crab. 2. The rough-bodied, ſmooth-clawed Squilla, called Cancer Mæas. 3. The ſmooth and long-clawed Crab, called, by Johnſton, the female of the common kind. 4. The little ſquall Crab. 5. The little woolly Crab. 6. The thick-bodied duck Crab. 7. The round-bodied duck Crab. 8. The common, or oval-bodied, duck Crab. 9. The very long-armed duck Crab. 10. The very ſmall-bodied, rough, long-armed Crab. 11. The lunar Crab. 12. The florid Crab. 13. The frog Crab. 14. The prickly and hairy, long-armed Crab. 15. The great, prickly, long-armed Crab. 16. The ſhort-bodied, reticulated Crab. 17. The elliptic-bodied Crab. 18. The ſmooth, long-legged Crab.

INSECTS.

Series the Second.

PTERARIA.

Thoſe which have wings.

OF the Inſects of this ſeries, ſome have only two wings, others have four: they are hence naturally arranged into two orders, under the names of Diptera and Tetraptera.

PTERARIA.

Inſects having wings.

Order the Firſt.

DIPTERA.

Inſects which have only two wings and under each of them a ſtyle, or oblong body, terminated by a protuberance or head, and called a Balancer.

OESTRUS.

THE mouth of the OEſtrus is a ſimple fiſſure, without either teeth or proboſcis.

OEſtrus thorace flavo cingulo nigro, alis nigra faſcia variegatis, pedibus pallidis.
The black and yellow-bodied OEſtrus, with black variegations in the wings, and white legs.

The Breeze, or Gad Fly.

This fly is nearly as large as the common blue fleſh-fly: it's eyes are black and large; it's antennæ have a ſingle long-briſtle at the extremity of a lenticular joint: the body is yellow, but has a black girdle, as it were, ſurrounding it; the belly is of a tawny colour, but the laſt joint black; the tail is long, and bends under the belly; the wings are whitiſh, and have a black line, and three black ſpots in each.

The female of this ſpecies lays her eggs in the backs of oxen, under the ſkin, and the worm lives there all the winter: authors have called this, and ſeveral other ſpecies, indiſcriminately, by the name OEſtrum.

INSECTS without Wings

Worms

The Hair Worm

The Leach

Spiders

Talus Sp. 4.

Aranea Sp. 4.

Aranea Sp. 9

Aranea Sp. 8.

Scolopendra Sp. 5.

Aranea Sp. 7.

Aranea Sp. 13.

Aranea Sp. 1.

The long Legd Acarus

Acarus Sp. 7.

Aranea Sp. 2.

Scorpions

The Barbary Scorpion

The Italian Scorpion

The Black African Scorpion

The Great Crab

Crabs

The little Wolly Crab

The Wart Crab

The little Squall Crab

The long clawed Crab

The Frog Crab

The round bodied Dutch Crab

The Spider Crab

The Moluca Crab or King Crab

The long armd Dutch Crab

The Hermit Crab

B. Cole Sculp.

OEſtrus niger thorace flavo.
The blackiſh OEſtrus, with a yellow breaſt.

The grey Fly, or trumpet Fly.

This is a very large fly, conſiderably exceeding the common blue fly in bigneſs: the body is of a duſky grey colour, approaching to black, and is ſmooth, except about the thorax, where there are a great number of yellow, long hairs: the wings are large and pellucid; the body is oblong, and the eyes are large and black: the female depoſits her eggs in the noſtrils of ſheep, deer, and ſome other animals; and the worms produced of them live either there, or in the frontal ſinus of the animal, to the time of their maturity. Authors call it, OEſtrum rhangiferinum Laponicum, and OEſtrum ſinus frontis ruminantium. We call it the grey fly from it's colour, or the trumpet fly from the noiſe it makes in the heats of ſummer, attended to by Milton in his Lycidas,

What time the grey fly winds her ſultry horn.

It is frequent about our hedges in autumn.

The other ſpecies of the OEſtrus are, 1. The larger, bee-like OEſtrus. 2. The ſmaller, round-bodied OEſtrus. 3. The large, black and yellow-bodied OEſtrus. 4. The black-legged, clear-winged, black and yellow OEſtrus. 5. The ſhort-winged, long-bodied OEſtrus; the worm of this lives in the inteſtines of horſes. 6. The large, rounder-bodied, plain-winged OEſtrus; the worm of this lives under water, and is called Tabanus aquaticus, and Chamæleo. 7. The ſmaller, oblong, and pointed-bodied OEſtrus. 8. The variegated-bodied, ſhort-legged, ſpotted-winged OEſtrus. 9. The black and tawny OEſtrus.

ASILUS.

THE head is furniſhed, by way of mouth, with a ſnout of a ſubulated figure, which is ſimple, and very ſharp at the extremity.

Aſilus ferrugineus abdomine partim flavo, partim nigro.
The ferrugineous Aſilus, with the body part black, part yellow.

The Hornet Fly.

This is one of the largeſt of the fly kind; it equals the hornet in ſize, and has ſo great an external reſemblance to it, that they are eaſily miſtaken for one another: the head is large; the ſnout long and black; the eyes very prominent: the thorax is very large and gibbous, and is of a duſky colour: the wings, the legs, and the belly, are all of a ferrugineous colour: the body, on it's upper part, is black and yellow; it conſiſts of ſeven articulations; the three upper ones of which are black, and the four others yellow.

It is frequent in our paſtures in autumn; it generally flies low. Authors call it Muſca crabroniformis, and Muſca rapax major.

Aſilus niger hirſutus abdominis tribus extremis articulis albis.
The great, black and white-bodied Aſilus.

This is larger than the former ſpecies, and even exceeds the hornet in bigneſs. The body is long and ſlender; the wings are large and greyiſh: it is all over hairy and black, except that the front of the head is pale, and the three laſt rings of the body are white; and, in the male, the belly is ſomewhat yellowiſh.

This is a ſcarce fly; I met with it laſt year in the Fens in the iſle of Ely.

Aſilus veſpæformis antennis capite longioribus.
The veſpæform Aſilus, with the antennæ longer than the head.

The Waſp Fly.

This is of the ſize of the common Waſp, and very much reſembles it in ſhape and colour: the head is ſmooth and yellowiſh; the body is obtuſe, and all it's joints are edged with a pale yellow.

It is frequent in our orchards. Authors call it, Muſca veſpiformis.

The other ſpecies of the Aſilus are, 1. The long, ſlender-bodied, great Aſilus, called the Lupus, or Wolf-fly. 2. The great, ſmooth, black, and red Indian Aſilus. 3. The black-legged, blue-winged, ſmooth, yellow Aſilus. 4. The blue-bodied Aſilus, with black ſtreaks. 5. The brown-legged, white-winged, black, hairy Aſilus. 6. The black and reddiſh-bodied Aſilus. 7. The black-winged, ſmooth, black-bodied Aſilus. 8. The black Aſilus, with roundiſh, ferrugineous wings. 9. The black Aſilus, with white ſtreaks and ſpots. 10. The willow Aſilus, with white wings, with two tranſverſe, black ſtreaks in them. 11. The ſmooth, black-bodied Aſilus, with grey wings. 12. The ſmooth, oval, grey Aſilus. Many of theſe wound in a very painful manner; others of them are quite harmleſs.

HIPPOBOSCA.

THE head of the Hippoboſca is furniſhed, by way of mouth, with a ſnout of a cylindric figure, obtuſe, and formed of two valves; the tongue is ſetaceous.

Hippoboſca pedibus tetradactylis.
The Hippoboſca, with four claws to the feet.

The common Horſe-fly.

This is a moderately large fly; it's body is of an oblong form, rounded at the end; it's colour grey, and it's ſkin ſmooth: it's eyes are large, and it's wings large and tranſparent; and each of it's legs is terminated by four ſhort and ſharp claws.

It is very frequent about the bodies of horſes and oxen; it adheres extreamly firmly wherever it lays hold; it ſeizes on them principally about the perinæum and groin, and is very troubleſome. Authors call it, Hippoboſcus; Ricinus Volans, and Muſca equina tenax.

Hippoboſca pedibus ſex dactylis.
The Hippoboſca, with ſix claws to each foot.

The Swallow's Neſt-fly.

This is a ſmall fly, but of a very ſingular form: the head is ſmall, but from that to the tail it grows gradually broader: the thorax is of a conoid form, or reſembles a ſegment of a cone; the body is broadeſt at the extremity, and is emarginated or marked with an impreſſion or dent in that part: the wings are long, but remarkably narrow: the legs are all terminated by ſix ſhort claws.

It was firſt obſerved by De Geer, in the neſt of a ſwallow; but I have found it on the necks of horſes, and other animals. Reaumur has figured it in his eleventh plate, Vol. iv.

The other ſpecies of the Hippoboſca are, 1. The long-bodied, duſky-brown Hippoboſca. 2. The black, oval-bodied Hippoboſca. 3. The round-bodied, ſhort-winged Hippoboſca.

TABANUS.

THE head of the Tabanus is furniſhed, by way of mouth, with a proboſcis or ſnout, and with connivent teeth.

Tabanus griſeus abdominis ſegmentis ſingulis triangulo albo notatis.
The grey Tabanus, with every ſegment of the abdomen marked with a white ſpot.

The great Horſe-fly.

This is a very large fly; the head is greyiſh, the eyes large and black; the wings are large, broad, and tranſparent, but they have ſome duſky, ferrugineous lines in them: the thorax and the body are both grey, but the back part of the body under the wings is a little yellowiſh, and in the center of each of the rings, all the way down the back, there is a triangular white ſpot, with it's point upwards: the thighs are black, and the reſt of the legs yellow.

It is frequent in our paſtures, and is apt to be very troubleſome to horſes. Authors call it Tabanus major, and Tabanus vulgaris.

Tabanus fuſcus alis maculatis.
The brown Tabanus, with ſpotted wings.

This is a ſmall fly, ſcarce exceeding the common houſe-fly in ſize: the head, thorax, and body are brown, but there is ſome yellowiſhneſs under the roots of the wings: the wings are large, and are beautifully variegated with black and white ſpots: the eyes are large, and of a bright ſhining green, but ſpotted as it were with black: it is, upon the whole, a very beautiful fly.

We have it in our hedges in hilly places. Ray calls it, Muſca bipennis pulchra alis maculis albis amplis pictis; others, Tabanus fuſcus alis fuſcis maculis nigris, and Alis cinereis variegatis.

The other ſpecies of the Tabanus are, 1. The black Tabanus variegated with yellow, and with brown legs. 2. The brown Tabanus with ferrugineous ſides, and three brown ſtreaks over the eyes. 3. The grey Tabanus, with a tranſverſe line over the eyes. 4. The brown Tabanus, with grey wings, variegated with very ſmall white ſpots, with green eyes with four brown lines over them. 5. The long-bodied Tabanus. 6. The ſhort-bodied Tabanus, with clear wings. 7. The black, clear-winged Tabanus.

MUSCA.

THE head of the Muſca is furniſhed with a mouth, which has a proboſcis or ſnout, but has no teeth. The ſpecies of this genus are very numerous.

Muſca alis albis apice nigris.
The white-winged Muſca, with a black ſpot on each.

The head of this fly is red, and large; the body is ſhort, obtuſe, and black; the legs alſo are black; the eyes are large; the wings are white, but each has at it's extremity a round black ſpot: while it is ſitting, it is continually vibrating it's wings.

We have it frequent in our orchards, on the leaves of apple-trees. I have met with it more abundantly in Eſſex than elſewhere.

Muſca hirſuta, thorace, abdominis apice, alarumque baſibus fulvis.
The hairy Muſca, with the thorax, the end of the body, and the baſes of the wings yellowiſh.

This is a very ſingular fly; it is one of the largeſt of this genus: the body is of an oval figure and black, the extremity of it covered with a number of yellowiſh hairs: the thorax is alſo covered with the ſame kind of hairs: the head is black, as are alſo the legs; the wings are pellucid, and whitiſh toward the baſe, and have each a large ſpot of a ferruginous colour toward the outer edge.

It is met with in ſome of our woods, but not frequently. I ſaw a great many laſt ſummer at Mr Apreece's, at Waſhingley in Huntingtonſhire, in his woods.

Muſca nigra lateribus abdominis teſtaceis.
The black Muſca, with the ſides of the abdomen teſtaceous.

This is a moderately large fly: the body is of an oval figure and obtuſe; the thorax is oblong; the head and the eyes are large, the legs are black; the ſides are each marked with a very large, pale coloured ſpot.

It is very common about watery places. Ray calls it, Muſca bipennis major diverſicolor cauda ſetis nigris obſita.

Muſca thorace abdomineque viridi-nitente.
The Muſca, with the thorax and body of a ſhining green.

The green Fly.

This is a large fly, equal to the common blue fleſh-fly in ſize: the head is black, and the eyes large; the breaſt and body are of one uniform colour, which is a beautiful green, with ſomething of a braſſy yellow, in many lights very bright and ſhining: the legs are black, and the eyes brown, and there is a double tranſverſe line on the abdomen: the body is oval, and has four joints.

It is common about ſtinking fleſh.

Muſca cinerea, thorace quinque maculis nigris, abdomine maculis tridentatis.
The grey Muſca, with five black ſpots on the thorax, and tridentated ſpots on the body.

This has much the appearance of the common houſe-fly, but it is not more than half it's ſize: the eyes are reddiſh; the thorax is grey, with two ſmaller and three larger ſpots of black on it: the body is hoary, and compoſed of four joints. The firſt of theſe has no ſpot upon it; the ſecond has a tridentated mark at it's baſe; the third and fourth have alſo ſpots of the ſame kind on them, but the middle denticle is almoſt wanting.

It is common in our paſtures and about hedges, in all parts of the kingdom.

The other ſpecies are very numerous, and may conveniently be arranged under five or ſix diviſions.

Of thoſe with variegated wings, beſide the firſt deſcribed, there are, 1. The Fly, with black wings tipped with white. 2. The Fly, with two black ſpots on each wing. 3. The Fly, with white wings, and with a ſingle black dot at the extremity of each. 4. The unguiculated winged Fly, with the wings white, and a black ſpot in the middle. 5. The black Fly, with the wings variegated on the anterior part with black and white. 6. The Fly, with grey wings ſpotted with black. 7. The grey Fly, with white unguiculated wings, ſpotted with brown. 8. The Fly with white wings, with black edges, and black ſpots. 9. The Fly with white wings, with three brown faſciæ, and a brown terminatory ſpot. 10. The Fly with white wings, and with four grey faſciæ, and as many ſmaller running alternately with them. 11. The white-winged Fly, with four faſciæ in the wings, and with five pair of ſpots on the back. 12. The green-eyed Fly, with white wings, and with the letter S marked in a double line of brown on them. 13. The Fly, with white unguiculated wings, with four brown faſciæ, and with the extremity of the thorax yellow. 14. The Fly, with pale wings, with black veins, and with two tranſverſe, undulated, brown lines, and the tips brown. 15. The Fly, with membranaceous wings ſpotted with black, and three rows of black dots on the body.

Of the hairy Muſcæ, beſide the ſecond deſcribed ſpecies, there are, 1. The black Fly, with the edges of the wings thin, ſinuated, and whitiſh. 2. The common hairy, dung Fly, with a ſpot on each of the wings. 3. The black Fly, with the baſe of the abdomen white, and it's extremity brown. 4. The Fly, with a grey thorax, and with the apex of the abdomen white, and the wings marked with a ferrugineous ſpot. 5. The Fly, with a grey thorax and black body, and with a duſky, ferrugineous ſpot on each of the wings. 6. The Fly, with the body white in the anterior part, and black behind, and with white wings with a black ſpot in them. 7. The hairy Fly, with a yellow thorax, and with a brown ſpot in the wings. 8. The hairy, grey Fly, with ferrugineous wings, and a brown ſpot in each.

Of thoſe with variegated bodies, beſide the third deſcribed ſpecies, there are, 1. The black Fly, with the baſes of the wings ferrugineous. 2. The Fly with the grey breaſt, and with the baſe of the abdomen marked with a yellow ſpot, and with the edges of the ſegments whitiſh. 3. The black Fly, with the ſegments of the body, all but the firſt, yellow, with a black mark in the middle. 4. The Fly, with the yellow breaſt, and four yellow tranſverſe lines on the abdomen, the firſt larger than the reſt, and interrupted. 5. The Fly, with four yellow ſtreaks on the thorax, and three of the ſegments of the abdomen in part yellow. 6. The black Fly, with a ſnow-

white body, with two black faſciæ on it. 7. The brown and ſomewhat hairy Fly, with the edge of the abdomen acute, and with three yellow lines, and a triangular ſpot. 8. The bee Fly, produced from the long-tailed maggot of the neceſſary houſes. 9. The black Fly, with a velvety body marked with three tranſverſe lines. 10. The black Fly, with the body marked with two yellow belts on the back. 11. The black Fly, with ferrugineous wings, with three white interrupted belts on the back. 12. The brown Fly, with ferrugineous wings, and with the edges of the ſegments of the body grey.

Of thoſe which in the worm ſtate live on trees and plants, and feed on the Inſects on them, there are, 1. The Fly, with the black oval body, and with a pair of lunular marks, and three yellow belts on it. 2. The Fly with an oval body, and three pair of whitiſh lunulæ: this is called by authors the Proboſcis Elephantis, it lives in the worm-ſtate on the pear-tree. 3. The oblong, yellow-bodied Fly, with black tranſverſe lines. 4. The oblong-bodied Fly, with three pair of ſquare, yellow ſpots. 5. The long-bodied Fly, with three pair of trigonal, yellow ſpots. 6. The cylindric-bodied Fly, with three pair o white lunulæ on the back. 7. The grey Fly, with four black ſpots on the back of the body. 8. The oblong-bodied Fly, with the hinder legs the larger. 9. The Fly, with the body marked with three yellow, reflex, circular lines.

Of the ſhining or gilded Flies, beſide the fourth deſcribed ſpecies, there are, 1. The Fly, with a ſhining blue breaſt, and a ſhining green body. 2. The Fly, with a ſhining green breaſt, and a ſhining blue body. 3. The Fly, with a black thorax and green body. 4. The Fly, with a black breaſt and blue body. 5. The oblong-bodied Fly, with the head green, the thorax yellow, the body of a copper colour, and the wings marked with a brown ſpot. 6. The oblong Fly, with a braſſy thorax, and the body yellow in the fore part, and black behind, with wings without any ſpots on them.

Of thoſe reſembling the common houſe Fly, there are, 1. The common houſe, fleſh Fly, with a black, teſſelated body, and with oblong ſtreaks of black on the thorax. 2. The black Fly, with a white forehead. 3. The black Fly, with the body ſmooth and gloſſy. 4. The ſmooth, black Fly, with ferrugineous eyes, and the baſe of the thighs whitiſh; this is produced from the common maggots in cheeſe. 5. The ſmooth black Fly, with the edges of the wings black, and thicker than the other part. 6. The ſomewhat hairy black Fly, with nervous wings. 7. The grey Fly, with fine black marks upon the thorax, and with tridentated marks on the abdomen. 8. The yellow Fly, with the abdomen brown on the upper part, and three black ſtreaks on the thorax. 9. The yellow Fly, with black eyes.

CULEX.

THE head of the culex is furniſhed with a ſiphon or ſucker very ſlender, oblong, and filiform.

Culex fuſcus roſtro bifurco.
The brown Culex, with a forked roſtrum. **The great Gnat.**

This is of twice the bigneſs of the common Gnat, but it much reſembles it in ſhape: it's body is long, ſlender, and grey; it's wings are large, thin, and clear, and have no ſpots in them: the ſnout is prominent, as in the other ſpecies of this genus; it's vagina is bifurcated at the top, or formed into two patulous leaves, which are hairy, and of a lanceolated figure, and the roſtrum or ſucker is ſlender, and placed between them.

This is a very common ſpecies about waters; while in the worm ſtate, it lives in the water. Ray has deſcribed it under the name of Tipulæ domeſticæ forte fœmina.

Culex lanigerus alis ſemifuſcis.
The lanigerous Culex, with ſomewhat obſcure wings. **The humble-bee Fly.**

This is extreamly unlike all the reſt of the Culices in form, but the ſtructure of the ſucker evidently refers it to the ſame claſs with the Gnats: it is very like the common humble-bee in ſhape, and even in ſize: it is covered with an extreamly thick down

down of ſhort hairs: it's body is ſhort, rounded, and obtuſe; it's colour black, but of a reddiſh brown at the ſides: the trunk or ſucker is long, and it always carries it exerted; the wings are part brown, and part whitiſh, and a great deal of the woolly down upon the body is white, which, with the blackneſs below, has a very ſingular effect.

It is common with us in gardens, where it flies about flowers, and ſucks the honey out of them, without ever ſettling upon them, always continuing on the wing. Authors calls it Muſca apiformis, and Muſca bombyliformis.

Culex alis aqueis maculis tribus obſcuris.
The Culex, with aqueous wings marked with three duſky ſpots.

The little Gnat.

This is conſiderably ſmaller than the common Gnat: the body is oblong, ſlender, and of a duſky brown, approaching to black: the head is large; the eyes are large, and very beautifully reticulated: the wings are long, narrow, and of a faint whitiſh colour; they have three duſky ſpots near the outer edge.

It is frequent in our woods and about waters; it's wound is attended with great pain, and the mark remains a long time. Derham calls it, Culex minimus nigricans maculatus.

The other ſpecies of the Culex are, 1. The common Gnat. 2. The black Gnat, with a white ring, with black legs, and whitiſh wings. 3. The black Gnat, with a brown body and white forehead. 4. The larger and thicker-bodied Gnat. 5. The long, variegated-bodied Gnat. 6. The long, grey, and yellowiſh Gnat. Theſe are all the hitherto known ſpecies of Gnats, but the genus is by many authors made much more extenſive, by the admitting into it ſeveral of the tipulæ, from an inattention to their diſtinguiſhing characters.

TIPULA.

THE head of the Tipula is furniſhed, at the mouth, with certain crooked and articulated tentacula.

Tipula alis exalbidis macula nivea, et lineis fuſcis.
The Tipula, with whitiſh wings variegated with a white ſpot, and brown lines.

The great Tipula.

This is the largeſt and the moſt beautiful of the Tipula kind: it's body is long, ſlender, and of a greyiſh brown; the tail is bifid; the legs are long and ſlender; the head is large, and the eyes very beautifully reticulated: the wings are large and very beautiful; they are of a whitiſh colour, but have a brown line running along the exterior ſide, which ſends off another ſmaller line toward the other ſide, and between theſe there is a large ſnow-white ſpot.

It is not unfrequent about Whitleſea Mere in the Iſle of Ely; elſewhere I have not found it. Ray calls it, Tipula maxima alis majoribus ex fuſco et albo variegatis.

Tipula corpore nigro fulvoque variegata.
The Tipula, with the body variegated with black and yellowiſh.

The painted Tipula.

This is a very beautiful ſpecies: the body is long, ſlender, and beautifully variegated with a deep gloſſy black, and a bright yellow: the thorax is alſo of the ſame fine black, with a number of yellow ſpots on it: the wings are large and browniſh, with ſome duſky veins, and an obſcure ſpot in each toward the edge: the legs toward the top are alſo yellowiſh.

We have this among the willows about Batterſea, and in ſome other places; but it is not very common. Ray calls it, Tipula elegans dorſo et ſcapulis nigris, ventre croceo.

Tipula thorace vireſcente alis exalbidis puncto nigro notatis. The green-breaſted Tipula, with whitiſh wings ſpotted with black.

The Sea Tipula.

This is a very beautiful ſpecies, but it much reſembles the gnat kind, and has been generally called one of them: the body is oblong and brown; the thorax is large, and of a beautiful green; the whole body and thorax are almoſt entirely ſmooth: the male has plumoſe antennæ; the female only villoſe ones. The worm from which this is produced is long, ſlender, of a bright red colour, and compoſed of twelve joints; it lives in the ſea, and makes itſelf clayey or ſandy caſes of a great length.

The fly is frequent in Suſſex toward the ſea, and in many other parts of England.

The other ſpecies of Tipula are conſiderably numerous: they may be conveniently arranged under two diviſions; the one comprehending the larger Tipulæ, which are more generally underſtood to be ſuch, and ſit with their wings patent; the other containing the ſmaller Tipulæ, generally miſtaken for gnats, and confounded with them by authors, and ſitting with their wings incumbent.

Of the firſt kind, or the larger allowed Tipulæ, there are, beſide the two firſt deſcribed ſpecies, 1. The Tipula, with wings beautifully variegated with brown. 2. The Tipula, with whitiſh wings, with a brown marginal line. 3. The whitiſh-winged Tipula, with white ſcattered ſpots. 4. The grey-winged Tipula, with black lines and ſpots. 5. The black-bodied and black-legged Tipula, with blue wings. 6. The grey-winged Tipula, with brown lines and ſpots in the wings, and the back of the abdomen blackiſh. 7. The grey-backed Tipula, with whitiſh wings with brown ſpots. 8. The black and yellow-bodied Tipula, with whitiſh wings marked with faint ſpots. 9. The black-bodied Tipula, with brown wings. 10. The yellow Tipula, with a brown back. 11. The black-bodied Tipula, with wings of a pale browniſh colour, ſpotted with black.

Of the ſecond kind, or the ſmall Tipulæ reſembling gnats, there are, beſide the third deſcribed ſpecies, 1. The brown Tipula, with the anterior part of the body green. 2. The Tipula, with the anterior legs very large, and formed like antennæ, with a white circle on the body. 3. The Tipula, with the anterior legs antenniform, and tipped with white. 4. The white-legged Tipula, with the wings variegated with white and grey. 5. The green Tipula, with white wings without any ſpots. 6. The yellow-bodied Tipula, with the eyes, the thorax, and the back black. 7. The black Tipula, with the thorax gibboſe, and with the hinder legs large. 8. The ſmooth, black Tipula, with black wings, with antennæ ſhorter than the head, and with the anterior legs furrowed on the inner part. 9. The brown Tipula, with the baſe of the wings grey. 10. The oblong, black, hairy Tipula, with black wings. 11. The black velvety Tipula. 12. The red-bodied Tipula, with white wings, with the exterior rim black. 13. The Tipula, with deflex, grey, ciliated, ovato-lanceolated wings. 14. The black Tipula, with white wings, and with a white ſpot on the anterior part of the abdomen. 15. The blue-winged Tipula, with the inner edge of the wings hairy. 16. The reddiſh-bodied Tipula, with a black thorax. 17. The black-headed Tipula, with the antennæ longer than the body, and with the body of a pale red.

PTERARIA.

Inſects which have wings.

Order the Second.

TETRAPTERA.

Thoſe which have four wings.

THE Inſects of this order are very numerous, and have certain evident diſtinctions in the ſtructure of their wings, and may thence conveniently be arranged under five claſſes. Some of them have the external pair of wings very hard, firm, and

opake, ſerving as a kind of vagina or caſe for the others; theſe will make the firſt claſs, under the name of Coleoptera.

Others have the external pair of wings harder and firmer than the others, but more approaching to the nature of the internal, and not perfectly rigid and opake, as in the former. Theſe will make the ſecond claſs, under the name of Scleroptera.

Others have all the wings alike, and have them of a membranaceous ſtructure, but furniſhed with ſtrong ribs or nerves: theſe will conſtitute the third claſs, under the name of Neuroptera.

Others have all the four wings covered with a fine duſt, which duſt, when examined by the microſcope, is found to be compoſed of little regular ſcales, which have been improperly called feathers: theſe will conſtitute the fourth claſs, under the name of Lepidoptera.

And, finally, others have the wings merely membranaceous, compoſed of a fine thin ſubſtance, without any remarkable nerves: theſe will make the fifth and laſt claſs, under the name of the Hyrnenoptera.

TETRAPTERA.

Inſects which have four wings.

Claſs the Firſt.

COLEOPTERA.

Inſects which have four wings, the external ones perfectly unlike the others, being hard, firm, rigid, and opake, and having the appearance of two valves forming a caſe or vagina for the others; and having the mouth formed of two tranſverſe jaws.

SCARABÆUS.

THE antennæ of the Scarabæus are of a clavated figure, and fiſſile longitudinally: the eggs of all theſe hatch into hexapode worms, from which the beetle is afterwards produced.

Scarabæus cornubus duobus mobilibus, æqualibus, apice bifurcis introrſum ramo denticuliſque inſtructis.
The Scarabæus, with ramoſe, forked, moveable, equal horns.

The Stag-beetle.

This is a very large and very beautiful creature: it's colour on the back is a duſky brown, nearly approaching to black: it's length is more than an inch, and it's breadth about half an inch, or little more: the horns are equal to the body in length, and ſometimes in the full grown ones much more ſo; they are uſually black, ſometimes of a fine red like coral; they are forked at the ends, and have each a large branch, beſide ſome denticulations on the inſide; they are both of the ſame length, and ſerve the creature, as the claws of crabs and lobſters do thoſe animals, to pinch and hold things faſt with: the eyes are hard, prominent, and of a pale colour: the fore legs are longer and ſtronger than the other pairs.

It is frequent in Kent and Suſſex, and in ſome other parts of England. There is hardly a ſtranger ſight than this creature flying; it does not place itſelf horizontally, as might be imagined in this motion, but flies vertically, though it's motion be horizontal. All the writers on Inſects have deſcribed it. Mouffet calls it Cervus volans; Charleton, Cervus volans platyceros; Wagner, Scarabelaphus; Olearius, Taurus volans. Pliny was better acquainted with the ſtructure and uſe of theſe horns, than ſome of the people who wrote in what are called more improved ages.

Scarabæus

Scarabæus maxillis lunulatis, prominentibus, dentatis, thorace inermi.
The Scarabæus, with lunated, prominent, dentated jaws, and a ſmooth thorax.

This is a very large ſpecies: it's length is an inch, it's breadth two thirds of an inch: the thorax is ſmooth, convex, black, marginated, but without any prominences: the outer wings are ſmooth, and of a blackiſh purple, and are marginated; the feet are ſerrated; the lunulated jaws are prominent, black, and have each two teeth.

It is found in hedges, particularly ſuch as have aſh-trees in them, in the rotten part of the trunks of which it generally lives, and ſometimes in the earth, under their roots.

Scarabæus corpore viridi-æneo.
The ſhining, yellowiſh, green Scarabæus.

The braſs Beetle.

This is one of the larger beetles: the thorax is ſhort and broad, and the whole Inſect is indeed conſiderably broad, in proportion to it's length: the eyes are ſmall; the legs are long and ſlender; the whole body and external wings are of a very ſhining green, with an admixture of yellow.

It is not uncommon with us in gardens: Wormius calls it Scarabæus chlorochryſos; Merrit, Scarabæus ſmaragdalus; and J. Bauhine, Bupreſtis.

Scarabæus ovatus ater glaber.
The ſmooth oval-bodied black Scarabæus.

The little oval Beetle.

This is one of the ſmaller beetles: it's eyes are ſmall; it's legs long and ſlender; it's body of an oval form, and of a deep duſky black, not gloſſy or ſhining, tho ſmooth; the external wings are oblong, and lightly ſtriated; the ſtriæ ſcarce viſible, unleſs on a cloſe examination: the antennæ are lamellated.

It is not unfrequent with us in woods; Hornſey-wood abounds with it.

The other ſpecies of Scarabæus, properly ſo called, are, 1. The Scarabæus, with lunated, prominent, dentated jaws, and with the thorax on each ſide tridentated. 2. The Unicorn-beetle, or Scarabenitle, the head crooked, with a ſingle horn on the noſe, with the thorax gibboſe, and the abdomen hairy. 3. The Scarabæus, with the ſhield of the head lunated, with the margin elevated, and with an emarginated horn. 4. The cylindric-bodied Scarabæus, with a ſingle horn on the forehead, and with the thorax truncated before, and quinquedentated. 5. The black-bodied Beetle, with white ſpots on the external wings, called the Fullo. 6. The teſtaceous Scarabæus, with the thorax hairy, with the crooked tail, and with the lateral ſegments of the body white, called the common Tree-beetle, or Cockchafer. 7. The teſtaceous Scarabæus, with a hairy thorax, and with the exterior wings of a pale yellow, with three white longitudinal lines on them. 8. The Scarabæus, with a maginated clypeus, and with the external wings black, with two tranſverſe ſtreaks of red. 9. The black Scarabæus, with yellow hair on it, and with the exterior wings marked with two yellow tranſverſe lines. 10. The common black Dung-beetle, or the ſmooth-bodied black Scarabæus, with the exterior wings ſulcated, and with the clypeus of the head armed with a prominent point of a rhomboidal figure in the center. 11. The blue Beetle, with the back and exterior wings ſmooth and gloſſy, and a prominent rhomboidal body in the center of the clypeus of the head. 12. The Scarabæus, with the head and breaſt blue and hairy, and with the exterior wings grey, and the legs black. 13. The Scarabæus, with the head and thorax black and ſmooth, the exterior wings grey, and the legs pale. 14. The Scarabæus, with the head and thorax of an opake black, and with the exterior wings grey, clouded with black. 15. The Scarabæus, with the head and thorax black, and with the exterior wings and the antennæ red. 16. The black Scarabæus, with pale antennæ. 17. The little black Beetle of the waters. 18. The black Scarabæus, with the exterior wings ferrugineous, behind the legs reddiſh. 19. The bluiſh-black Scarabæus.

DERMESTES.

THE antennæ of the Dermeſtes are of a clavated figure, and are perfoliated tranſverſely the ſpecies of this genus have been confounded with the Scarabæi by Ray, and moſt other writers; whence that genus has been greatly increaſed beyond it's natural bounds, and as greatly confounded.

Dermeſtes niger elytris antice cinereis.
The black Dermeſtes, with the exterior wings grey on the anterior part.

This is a ſmall ſpecies: it's body is of an oblong form; it's head and thorax black; it's exterior wings grey towards the top, and elſewhere of a duſky blackiſh brown, but a tranſverſe ſtreak of white.

It is common in the carcaſſes of dead animals: it is particularly fond of birds, and often deſtroys the preſerved ſpecimens of them, in the collections of the naturaliſts. Godart calls it Dermeſtes: Ray, Scarabæus antennis clavatis clavis in angulos diviſis quartus.

Dermeſtes niger, alis exterioribus punctis albis binis notatis.
The black Dermeſtes, with the exterior wings, each marked with a white ſpot.

This is a ſmall ſpecies: it's body is of an oval figure, and black, as are alſo it's legs and antennæ; there is on each of the exterior wings a remarkable white ſpot, ſo that there appear two ſuch ſpots on the back, when thoſe wings are cloſed; if the creature be cloſely examined, there are alſo uſually found on each wing five other ſmaller ſpots of white: when touched, or terrified with a noiſe, it draws in it's head and legs, as it were, under the ſhell of the body.

It is found about houſes; ſometimes in old walls, but more frequently in larders, and other places where there is food.

Dermeſtes cylindraceus collari craſſo ſubhirſuto, elytris teſtaceis.
The cylindric Dermeſtes, with a thick hairy neck, and teſtaceous exterior wings.

This is a ſmall ſpecies alſo; the body is of a cylindric figure: the breaſt is thick, roundiſh, and black, and is ſomewhat hairy: the exterior wings are oblong, obtuſe at the point, and teſtaceous, and have a black edge, or margin running all round them: the wings are of a whitiſh brown; the body and legs are black; the antennæ are reddiſh: the ſize of the creature is about that of a louſe; on being touched, or terrified, it draws itſelf up into a ſhorter form, and lies perfectly ſtill.

It is common in houſes.

The other ſpecies of the Dermeſtes are, 1. The black Dermeſtes, with a double undulated white line on the exterior wings. 2. The black Dermeſtes, with two red ſpots on the exterior wings. 3. The black Dermeſtes, with four red ſpots on the external wings. 4. The ſmooth, grey, and black Dermeſtes, with a yellow hairy breaſt. 5. The teſtaceous hairy Dermeſtes, with ſtriated, retuſe, dentated, exterior wings. 6. The ſmooth teſtaceous Dermeſtes, with the exterior wings obtuſe and hairy behind. 7. The black Dermeſtes, with the exterior wings grey, edged with black. 8. The plain black Dermeſtes, with the exterior wings grey. 9. The black oblong Dermeſtes, with an acute belly. 10. The black Dermeſtes, with red legs, and with the exterior wings of a blackiſh brown. 11. The black Dermeſtes, with red legs. 12. The bluiſh-black Dermeſtes. 13. The browniſh-black Dermeſtes, with beautiful, punctated, exterior wings. 14. The ſmooth, oblong, teſtaceous Dermeſtes, with gloſſy black eyes. 15. The brown Dermeſtes, with a ſubteſtaceous thorax.

Theſe are all the ſpecies of this genius hitherto known; moſt of them are very ſmall, and their habitations are extreamly different; ſome of them live in horſe-dung; others in decayed wood; others in fleſh, and others in decayed vegetable ſubſtances: ſome are

found in plants, while flouriſhing; and ſome are inhabitants of the waters; but of the latter there are but few.

CASSIDA.

THE antennæ of the Caſſida are ſlender and filiform, but thickeſt toward the extremity: the thorax is plain and marginated. The ſpecies of this genus are alſo confounded with the Scarabæi by Ray, and others, and called by that name.

Caſſida viridis, ovato-lævis, clypeo caput tegente integro.
The green, ſmooth, oval Caſſida, with the clypeus covering the head undivided.

The green Tortoiſe Beetle.

This is a ſmall but very beautiful Inſect: it's body is oval, convex on the back, and and plain, or flat, on the belly: the upper ſurface of the animal conſiſts of the external wings, and the ſhield, or clypeus, which are both green ſmooth and uniform, ſo as to appear one ſingle cruſt, divided only by a kind of triangular ſuture: the belly is black; the head is entirely hid under the ſhield: the antennæ are pale, but deeper at the top than elſewhere; the legs are of a pale brown, and there is a kind of prominent rim running round the wings; they entirely cover the body, ſo as not to diſcover the leaſt part of it.

It is frequent in our gardens, on mint and other herbs: Goedart call it, Teſtudo viridis; and Friſch. Coccinella clypeata viridis; Ray, Scarabæus antennis clavatis in annulos diviſis.

Caſſida nigra antennis ſetaceis, corpore teretiuſculo.
The black Caſſida, with ſetaceous antennæ, and a rounded body.

This is a ſmall ſpecies: it's body is oblong, rounded, and of a duſky black, not at all gloſſy or ſhining: the external wings are oblong, lightly ſtriated, and ſomewhat flexile: they have ſeveral very ſmall hollowed ſpots: the clypeus is rounded, but ſomewhat broader than long; it is rough on the upper part, and has a cruciated prominent edge, and ſometimes two ſpots on the ſides, toward the hinder part, with yellow hairs on them: the belly is black, but, held in ſome particular directions to the light, it appears white and ſilvery.

It is common in houſes, where it is often very miſchievous, eating holes in cloaths and furniture: if touched ever ſo lightly, it draws up it's head and legs under it's body, and will never change that poſture, whatever torture it is put to, but dies in it.

Caſſida nebuloſa, pallida, ovalis, clypeo caput tegente integro.
The oval, pale, clouded Caſſida, with an undivided clypeus covering the head.

This is a very ſmall ſpecies: it's body is of an oval figure; it's colour a pale brown, ſpotted and clouded all over with a more duſky tinge, in ſuch a manner as to have ſomething of the appearance of the coat, or covering, of a tortoiſe: the clypeus is of a lunated figure; it is not emarginated before, nor ſpotted, but of a pale colour: the exterior wings are ſtriated and dotted, the ſtriæ running in flexuous lines: the body is black, and the antennæ are black and very ſlender.

It is not unfrequent in our beds of baum and mint; moſt of the writers of Inſects have figured it under the name of a Scarabæus or Beetle.

The other ſpecies of the Caſſida are, 1. The black Caſſida, with five ſtriæ on the external wings, and thoſe formed of prominent ſpots. 2. The black Caſſida, with three elevated ſtriæ on the wings, and with the antennæ teſtaceous before. 3. The black Caſſida, with ten elevated ſtriæ, and with ſtriated excavated dots. 4. The black Caſſida, with five ſtriæ dentated on each ſide, and with the clypeus emarginated. 5. The black Caſſida, with five ſmooth ſtriæ, and an emarginated clypeus. 6. The black Caſſida, with five elevated lines on the exterior wings, with punctated ſpaces between,

and with the Clypeus in it's anterior part entire. 7. The black Caſſida, with a ferrugineous clypeus, and an elevated line on the exterior wings. 8. The ferrugineous Caſſida, with alternate, elevated ſtriæ, and excavated dots on the wings.

HEMISPHÆRIA.

THE antennæ of the Hemiſphæria are clavated and entire: the thorax, with the exterior wings, which are marginated, conſtitutes an hemiſpheric figure.

Hemiſphæria elytris rubicundis, punctis ſeptem nigris.
The Hemiſphæria, with reddiſh elytræ, with ſeven black ſpots on them.

The Lady-cow.

This is an Inſect ſo well known, as ſcarce to need a deſcription; as there are two or three other ſpecies however of the Hemiſphæria, which are often confounded with it on a careleſs inſpection, it will be proper to mention it's diſtinctive characters: the head is black, and on the forehead there are two white ſpots: the thorax is black, but whitiſh on each ſide toward the edges: the elytræ, or exterior wings, are of a reddiſh colour; there are on each of them three black ſpots, and, toward their baſe, there is one ſpot common to both, and making the whole number ſeven; this is black, like the others, but whitiſh in it's anterior part. The antennæ are very ſmall and clavated, and the animal is entirely black underneath.

It is common in fields and hedges every-where in ſummer: Petiver calls it Cochenilla Anglica vulgatiſſima ſive rubra, ſeptem maculis nigricantibus adſperſa; and Ray, Scarabæus Hemiſphæricus rubens major vulgatiſſimus.

Hemiſphæria elytris rubris, punctis duobus nigris.
The Hemiſphæria, with red elytræ, with two black ſpots on them.

This is a ſmall ſpecies: the exterior wings are red, and have each in the center one black ſpot: the thorax is black, but has one larger, lateral, white ſpot, and two other very ſmall ones near the baſe, as alſo two others of the ſame ſize at the inſertions of the antennæ: the belly and legs are black, as are alſo the antennæ.

It is frequent with us on the alder, and many other trees.

Hemiſphæria elytris nigris, punctis ſex rubris notatis.
The Hemiſphæria, with black wings, with ſix red ſpots on them.

This is alſo a ſmall ſpecies: the thorax is entirely black: the exterior wings are alſo of a deep ſhining black, but each of them has three very beautiful blood-red ſpots on it; of theſe, that which is neareſt the thorax is the larger.

I have met with this in vaſt abundance on the maples, in ſome parts of the North of England; we ſometimes ſee it in the hedges about London, but not frequently: Ray calls it Scarabæus Hemiſphæricus minor elytris nigris rubris maculis.

The other ſpecies of this genus are, 1. The Hemiſphæria, with red wings variegated with white ſpots and lines. 2. The Hemiſphæria, with red wings, with five black tranſverſe lines on them. 3. The Hemiſphæria, with red wings, with five black ſpots on them. 4. The Hemiſphæria, with yellow wings, with four round and three oblong ſpots on them. 5. The Hemiſphæria, with red wings, with eleven black ſpots on them, 6. The Hemiſphæria, with red wings, with thirteen black ſpots on them. 7. The Hemiſphæria, with yellow wings, with fourteen black ſpots on them. 8. The Hemiſphæria, with red wings, with fourteen white ſpots on them. 9. The Hemiſphæria, with red wings, with fifteen black ſpots on them. 10. The Hemiſphæria, with red wings, with ſixteen white ſpots on them. 11. The Hemiſphæria, with red wings, with twenty white ſpots. 12. The Hemiſphæria, with yellow wings, with two and twenty black ſpots. 13. The Hemiſphæria, with red wings, with four and twenty black ſpots on them, not at all diſtinct. 14. The Hemiſphæria, with red wings, with numerous black ſpots, and a longitudinal black ſuture. 15. The Hemiſphæria, with yellow wings, with many confuſed black ſpots, and with a longitudinal

black ſuture. 16. The Hemiſphæria, with black wings, with two and twenty white ſpots on them. 17. The Hemiſphæria, with black wings, with fourteen red ſpots. 18. The Hemiſphæria, with black wings, with four red ſpots. 19. The Hemiſphæria, with black wings, with two red ſpots. 20. The Hemiſphæria, with the wings ſhorter than the body, and bent in. 21. The hairy Hemiſphæria, with the edges of the wings inflex, and with two white ſpots on the thorax. 22. The hairy Hemiſphæria, with the edges of the external wings inflex, and the ſutures red.

CHRYSOMELA.

THE antennæ of the Chryſomela are made in form of bracelets, or necklaces of beads, and are thickeſt toward their extremity: the body is of a figure approaching to oval, and the thorax is oblong and rounded: the ſpecies of this genus have been uſually confounded alſo with the beetles.

Chryſomela viridis cærulea.
The blue-green Chryſomela.

This is one of the larger ſpecies of this genus, though the very largeſt of them are but ſmall: it's head is ſmall; it's legs ſlender, and it's belly ſmooth: it is very convex and rounded on the back, and it's colour of a mixed blue and green, with a very fine tinge of gold diffuſed through it: the edges of the external wings are ſomewhat prominent, and they are marked with a few excavated ſmall ſpots all the way round: the antennæ, legs, and belly are of a ſimple green.

It is common in our meadows in May and June.

Chryſomela thorace elytriſque rubris.
The Chryſomela, with the thorax and external wings red.

This is a ſmaller ſpecies than the former, and is leſs convex on the back: it's head is ſmall and black; it's body is alſo black, and ſo are the legs, the lower part of the breaſt, and the antennæ; but the upper ſurface of the thorax is red, as are alſo the external wings.

It is frequent with us on the ſallow, and ſome other ſpecies of the willow kind, in June and July.

Chryſomela cæruleo-viridis thorace femoribuſque rufis.
The blue-green Chryſomela, with the thorax and thighs reddiſh.

This is one of the ſmaller ſpecies: it's head and exterior wings are of a beautiful ſhining green, with a caſt of blue in it; and there are a few ſmall hollowed ſpots on the head: the thorax is very convex, but ſmall; it is of a reddiſh colour, with a caſt of the blue-green in it: the upper part of the legs is reddiſh, the reſt black: the antennæ alſo are black.

It is frequent on our old willows about Chelſea, and almoſt in all parts of the kingdom.

The other ſpecies of this genus are, 1. The black Chryſomela, with hollowed and contiguous ſpots. 2. The ſmooth, black Chryſomela, with the baſes of the antennæ yellowiſh. 3. The purpliſh-black Chryſomela, with ſtriæ on the external wings, formed of excavated ſpots. 4. The purpliſh-black alder Chryſomela, with ſmall excavated ſpots, placed irregularly. 5. The purpliſh-black Chryſomela, with the thorax yellow on each ſide, and with a black ſpot. 6. The bright green Chryſomela, with the thorax ſmooth, and a number of contiguous, excavated ſpots on the external wings. 7. The ſmooth, green Chryſomela, with the thorax excavated in the anterior part. 8. The ſmooth, green Chryſomela, with the thorax ſmooth, and the exterior wings contiguous behind. 9. The obſcurely teſtaceous Chryſomela. 10. The pale grey Chryſomela. 11. The black-bodied Chryſomela, with the thorax and exterior wings grey. 12. The red Chryſomela, with the thorax of a cylindric figure, and compreſſed on each ſide. 13. The braſſy-yellow Chryſomela. 14. The greeniſh-yellow bodied Chryſomela, with red wings. 15. The bluiſh-black Chryſomela, with reddiſh external wings,

wings, black at the extremities. 16. The Chryſomela, with the thorax red, and of a cylindric figure, with two black ſpots on it, and with the external wings yellow, with a black croſs upon them. 17. The Chryſomela, and with a green thorax, and with red wings, with a blue croſs on them 18. The oblong, black Chryſomela, with the external wings red, and with four black ſpots on them. 19. The oblong, brown Chryſomela, with the letter S, in white, on the external wings. 20. The Chryſomela, with the external wings brown, and livid behind. 21. The bluiſh-black Chryſomela, with coal-black eyes. 22. The reddiſh-brown Chryſomela, with two black ſpots on the thorax, and ſeveral on the wings. 23. The blackiſh-yellow Chryſomela, with the edges of the exterior wings yellow. 24. The blackiſh-yellow Chryſomela, with a double line of yellow on the exterior wings. 25. The Chryſomela, with a black thorax, and with the exterior wings red, with a black croſs on them. 26. The thin-winged, teſtaceous Chryſomela. 27. The oblong teſtaceous Chryſomela, with pointed exterior wings. 28. The brown Chryſomela, with a black head. 29. The Chryſomela, with brown wings, with yellowiſh edges.

CURCULIO.

THE antennæ of the Curculio are affixed to an elongated horny ſnout.

Curculio ſubfuſcus, elytris faſciis nebuloſo-teſtaceis.
The browniſh Curculio, with the exterior wings nebuloſo-teſtaceous.

The Saw-wort Beetle.

This is a ſmall ſpecies, and is of a greyiſh-black colour: the body is thickeſt and very gibbous on the back part, toward the tail: the wings, thorax, body, and indeed every other part of the Inſect, are covered with little excavated ſpots: there are two obſcurely teſtaceous lines on the thorax, and the apices of the antennæ are yellow.

It is frequent in our woods, and is moſt commonly found on the Serratula, or Saw-wort; Liſter call it Scarabæus majuſculus ſcaber, e leucophæo nigroque varius.

Curculio niger elytris nigris, faſcia duplici alba, baſi rubris.
The Curculio, with black exterior wings, red at the baſe, and with two white lines.

This is about the ſize of the common ant, and, tho' a creature of a wholly different character, yet carries a very great external and general reſemblance to that Inſect: the head is ſmall, ſhort, black, and immerſed in the thorax: the antennæ are ſhort, clavated, and black: the thorax is rough, and of a reddiſh colour, but the edge next the head is blackiſh: the exterior wings are oblong, obtuſe, flattiſh, black, and ornamented with a number of little protuberances; they are reddiſh at the baſe, and have a double white line running acroſs them, the one broad, and the other flexuous.

It is common about our paſtures all the ſummer; it runs the ſwifteſt of all the Curculio's. All the writers on Inſects have figured it under the name of a Beetle: it is the ſixty-ninth of Johnſton; the twenty-ninth of Ray's hiſtory.

Curculio nigro-cæruleſcens.
The bluiſh-black Curculio.

This is of about the ſize of the common flea: the thorax, the head, and the legs are of a pale blackiſh-blue; the exterior wings have a much deeper tint of the ſame kind, and are marked with longitudinal ſtriæ, formed of excavated ſpots.

It is common in our hedges.

The other ſpecies of the Curculio are, 1. The common brown Curculio, with acuminated antennæ. 2. The grey Curculio, with a ferrugineous ſpot on each of the exterior wings. 3. The black and white Curculio, with a flat hollowed proboſcis, of the length of the thorax. 4. The braſſy-brown Curculio, with the ſnout ſhorter than the thorax. 5. The grey Curculio, with three ſtriæ on the thorax, and with the ſnout

ſhorter than the thorax. 5. The grey Curculio, with three ſtriæ on the thorax, and with the ſnout ſhorter than the thorax. 6. The black Curculio, with the ſnout of the length of the thorax. 7. The oblong, grey Curculio, with obtuſe wings. 8. The grey, oblong Curculio, with red legs. 9. The oblong, grey, and black Curculio, with the legs and the antennæ browniſh. 10. The duſky green Curculio, with the legs and the antennæ browniſh. 11. The blue-green, ſhining Curculio, with black antennæ. 12. The ſhining purple Curculio. 13. The clouded grey Curculio, with the anterior legs denticulated. 14. The oblong-bodied, green Curculio, with all the legs denticulated. 15. The roundiſh-bodied Curculio, with two black, longitudinal ſpots, and a white thorax. 16. The browniſh, black, roundiſh-bodied Curculio, with a white cordated ſpot on the back. 17. The oblong, teſtaceous, reddiſh Curculio, with the thorax nearly of the length of the wings. 18. The oval-body, coal-black Curculio. 19. The black Curculio, with oblong, exterior wings, and clavated thighs. 20. The black Curculio, with oblong, opake, exterior wings. 21. The black Curculio, with ſhining, exterior wings. 22. The black Curculio, with bluiſh-black ſhining wings. 23. The black Curculio, with white thighs. 24. The grey Curculio, with blackiſh ſpots on the exterior wings, and pale yellow legs. 25. The grey Curculio, with reddiſh legs. 26. The grey Curculio, with pale, longitudinal ſtreaks. 27. The bluiſh-black Curculio, with four blackiſh ſpots on the wings. 28. The blood-coloured Curculio. 29. The black Curculio, with the exterior wings reddiſh in the middle. 30. The black-bodied Curculio, with reddiſh wings, and the head elongated behind.

CERAMBYX.

THE antennæ of the Cerambyx are long, ſlender, and ſetaceous: the thorax is oblong and rounded, and is in moſt of the ſpecies continued to a point at each extremity.

Cerambyx viridi-cæruleſcens antennis corpus ſubæquantibus.

The blue-green Cerambyx, with the antennæ nearly equal to the body in length.

The musk Beetle, or capricorn Beetle.

This is a very large and beautiful Inſect: it is all over of a beautiful, gloſſy, blue-green colour, with a caſt of ſhining gold-yellow in it; the body is blue on the upper part, and the inner wings are black: the legs are of the ſame bluiſh-green colour with the reſt, only ſomewhat paler: the thorax is mucronated or pointed at each extremity, and between the two points there are three little tubercles near the wings, and three others ſtill ſmaller toward the head: the wings are oblong, of a ſomewhat lanceolated figure, flexile, and have three longitudinal and ſomewhat elevated ribs on them: the antennæ are nearly of the length of the body; they are compoſed of a number of joints which grow ſmaller, as they approach the extremity, the contrary of which proportion is the uſual caſe.

It is found in old willows, but not very frequently; it diffuſes a moſt agreeable ſmell, ſomewhat like that of muſk: it has been deſcribed by moſt of the writers on Inſects. Ray calls it Scarabæus Capricornus dictus major viridis odoratus; Liſter, Scarabæus magnus ſuaviter olens, and Goedart, Cerambyx tertius.

Cerambyx nebuloſus antennis corpore longioribus, punctis quaternis luteis in thorace.

The Cerambyx, with the antennæ longer than the body, and with four yellow dots on the thorax.

The body of this ſpecies is about three quarters of an inch in length, and is all over of a grey colour; the exterior wings are obtuſe, and have a number of minute hairs on them, and, between and among theſe are a number of ſmall tubercles; there is a duſky blackiſh ſhade acroſs the wings, which in it's hinder part is curved toward the middle: the thorax is pointed at each end, and is very grey, but has four beautiful tranſ-

verſe yellow ſpots toward it's hinder part: the eyes are black, and there is a black ſpot near the antennæ: the antennæ are equal to five times the length of the body; they are grey, and are compoſed of ten articulations, which are ſhorter, as they are nearer the head: the wings are black, ſtreaked with brown. The female in this ſpecies has an elongation at the anus, which continues the body to a third of the length of the antennæ; but in the males they are five or ſix times as long as the body.

It is found in old wood, but is not common with us. I met with a great number of them in ſome old timber in Lincolnſhire laſt ſummer. Petiver calls it Capricornus Ruſticus cinereus cornubus longiſſimis.

Cerambyx nigricans thorace villoſo cinereo, punctis duobus glabris.
The black Cerambyx, with a hairy, grey thorax, and two ſmooth ſpots.

The body of this ſpecies is oblong, and ſomewhat depreſſed; it's colour is a deep black, with an admixture of a faint grey: the body is covered with a number of ſhort hairs, and with prominent tubercles between them: the whole thorax is hairy; it is black, and the hairs are white, ſo that on the whole it appears grey, but there are two ſmooth prominent ſpots on it's hinder part: the antennæ are ſlender, black, and of about half the length of the body; there is an undulated line on the exterior wings, but ſo faint, that it is ſcarce viſible; the exterior wings are ſomewhat flexile.

It is found among timber, but is not very common with us.

The other ſpecies of the Cerambyx are numerous: they may be arranged under two diviſions; thoſe of the firſt having ſharp protuberances ariſing from the thorax, and thoſe of the ſecond not.

Of the firſt diviſion, beſide the two firſt deſcribed ſpecies, there are, 1. The black Cerambyx, with a flatted thorax, the edge tridentated on each ſide, and with coal-black antennæ. 2. The reddiſh Cerambyx, with three longitudinal black lines on the wings. 3. The black Cerambyx, with irregular pale ſpots on the wings, the thorax prickly, and the antennæ longer than the body. 4. The grey Cerambyx, with black ſpots, and a black tranſverſe line on the wings, and with the antennæ of once and a half the length of the body. 5. The grey Cerambyx, with black, abrupt, exterior wings, with white ſpots, and a white tranſverſe line on them, and with the antennæ once and a half the length of the body. 6. The grey and black Cerambyx, with the antennæ of about half the length of the body. 7. The grey Cerambyx, with two yellow, tranſverſe lines on the exterior wings, and the antennæ of half the length of the body. 8. The teſtaceous Cerambyx, with a double, white, tranſverſe line on the wings.

Of the ſecond diviſion, or thoſe which have none of theſe ſpinoſe protuberances on the thorax, there are, beſide the laſt deſcribed ſpecies, 1. The black Cerambyx, with two white, undulated, tranſverſe lines on the exterior wings. 2. The teſtaceous Cerambyx, with a grey, hairy thorax, with two ſmooth, ſhort lines on it. 3. The teſtaceous Cerambyx, with the ſmooth thorax. 4. The brown Cerambyx, with impreſſed ſpots on the thorax. 5. The grey Cerambyx, with the exterior wings ſpotted with black. 6. The black Cerambyx, with a longitudinal, dentated, yellow line, and yellow ſpots on the exterior wings. 7. The fine, violet-coloured, ſhining Cerambyx, with black antennæ, and clavated thighs.

LEPTURA.

THE antennæ of the Leptura are oblong, ſlender, and ſetaceous: the exterior wings are truncated at their extremity, and the thorax is of a ſubcylindric figure.

Leptura nigra, elytris rubeſcenti-lividis.
The black Leptura, with reddiſh-livid, exterior wings.

This is a large ſpecie; it's body is of an oblong figure, and grows ſmaller behind: this, the legs, the antennæ, and all the other parts, except only the exterior wings, are black: the belly, and all the under part of the Inſect, is black, but, if viewed in a certain light, it looks white and ſilvery: the exterior wings in the females are of a

deep and ſtrong red, without any variegation; but in the males they are of a leſs intenſe red, and are black, or grey, at the tips or edges, or have other variegations of thoſe colours in them; the whole ſurface of the exterior wings in both is ornamented, with a vaſt number of ſmall excavated dots, and with a few ſhort and fine hairs; the head and thorax are ſometimes yellowiſh.

It is not uncommon with us in woods; thoſe about Highgate and Hampſtead frequently afford it. Moſt of the authors who have written on Inſects mention it; Ray calls it Cerambyx capite, ſcapulis, et antennis nigris elytris flavis extremitatibus nigricantibus; Friſch. Scarabæus arboreus major violaceo-ruber.

Leptura nigra elytrorum lineis tranſverſis flavis, pedibus teſtaceis.
The black Leptura, with yellow, tranſverſe lines on the exterior wings, and teſtaceous legs.

This is of an oblong, narrow figure, and it's general colour is a blackiſh-brown; the upper edge of the thorax is yellow, and there is a yellow ſpot at the juncture of the exterior wings; and there are ſome odly undulated yellow lines placed tranſverſely on theſe: they are truncated at the apex, and are lightly hairy; the antennæ and legs are of a reddiſh brown.

We have it in our hedges, and not unfrequently in orchards. Rays calls it Scarabæus medius abdomine oblongo anguſto niger, lineolis et maculis luteis pulchre variegatus.

Leptura deaurata antennis nigris, femoribus poſticis dentatis.
The gold yellow Leptura, with black antennæ, and the hinder legs dentated.

The body is oblong, and the head ſmall; the colour of the whole Inſect is nearly that of copper, but with a fine and ſtrong gilded yellow diffuſed through it: the head, the thorax, the exterior wings, and even the legs are all ſpotted, with extreamly minute and almoſt contiguous dots, which are all excavated or hollow; they are diſperſed irregularly over the thorax, head, and legs, but on the wings they are tolerably regularly arranged into ten longitudinal ſeries, forming ſo many lines: the eyes are black, and the antennæ brown.

It is common with us about waters among ſedge and the cyperus graſſes; ſometimes on the leaves of the nymphææ.

The other ſpecies of the Leptura are, 1. The great, duſky, greeniſh, yellow Leptura, with the antennæ variegated with yellow and green. 2. The black Leptura, with the thorax and the exterior wings reddiſh. 3. The black Leptura, with the exterior wings variegated with black and livid. 4. The black Leptura, with the thorax, the exterior wings, and the legs purple. 5. The black Leptura, with the exterior wings and the thorax yellow. 6. The black Leptura, with the exterior wings livid, and marked with four black ſpots. 7. The entirely black Leptura. 8. The black Leptura, with the exterior wings teſtaceous, with ſix black ſpots on them. 9. The black Leptura, with four pair of ferrugineous ſpots on the exterior wings. 10. The black Leptura, with yellow exterior wings, black at the extremity. 11. The black Leptura, with teſtaceous exterior wings, with a black croſs, black lines, and two black ſpots on them. 12. The violet and gold-coloured Leptura, with the poſterior legs dentated.

CARABUS.

THE antennæ of the Carabus are oblong, ſlender, and ſetaceous: the thorax is ſomewhat convex, marginated, of a cordated figure, and truncated in the hinder part.

Carabus

Carabus violaceo-niger elytris lævibus, ſubrugoſis.
The violet-black Carabus, with ſmooth but wrinkled exterior wings.

The head of this ſpecies is ſmall; the eyes are large and prominent, and the antennæ moderately long, and very ſlender; the general colour is black, but the edges of the thorax and wings are of a beautiful deep and gloſſy violet colour: the exterior wings have no dots, nor lines on them, but they have ſome longitudinal, and even ſome tranſverſe, wrinkles, but they are not very conſpicuous.

It is common with us among putrefying vegetables, and on Dunghills. Ray calls it Scarabæus major corpore oblongo è purpura nigricante.

Carabus purpureo-nigreſcens elytris concave punctatis ſtriatiſque.
The purpliſh-black Carabus, with hollow ſpots and lines on the exterior wings.

This is a large ſpecies: the body is of an oblong form, and moderately thick; the general colour is blackiſh, with a ſtrong and very beautiful tinge of a gloſſy purple: there are on each of the exterior wings three lines, formed each of a ſeries of longitudinal ſpots, which are round and hollowed, and placed about twelve in each ſeries: the lines which ſeparate theſe rows of ſpots, are alſo hollowed.

It is not uncommon with us on dunghills, and about decayed and putrid vegetable ſubſtances. Ray calls it Cerambyx purpurea punctata.

Carabus ater pedibus rufis.
The black Carabus, with reddiſh legs.

This is a ſmall ſpecies, very little exceeding a common fly in bigneſs: the whole Inſect is black; the thorax is broad and ſhort: the exterior wings are ſtriated each with eight lines; the legs are of a reddiſh brown, as are alſo the baſes of the antennæ.

It is not unfrequent with us about dunghills: it has been called Bupreſtis corpore nigro pedibus rufis.

The other ſpecies of Carabus are, of the larger ones, 1. The black Carabus, with the exterior wings convexly punctated and ſtriated. 2. The black Carabus, with greeniſh wings convexly punctated and ſtriated. 3. The black Carabus, with braſſy wings convexly punctated and ſtriated. 4. The black Carabus, with ſixteen ſtriæ on the exterior wings. 5. The green Carabus, with obtuſely ſtriated and not punctated wings, and with the head and legs of a ferrugineous colour. 6. The black Carabus, with green, obtuſely ſulcated wings, and with the antennæ and legs black.

Of the ſmaller Carabi there are, beſide the laſt deſcribed ſpecies, 1. The elegant ſhining Carabus, with the head and thorax blue, and the wings purple. 2. The braſſy, yellow Carabus, with reddiſh legs, and ſix hollowed ſpots on the exterior wings. 3. The black Carabus, with the legs pale. 4. The pale, teſtaceous Carabus, with ſmooth, exterior wings. 5. The black Carabus, with the thorax, the antennæ, and the legs ferrugineous. 6. The Carabus, with the head and exterior wings blue, and the thorax red. 7. The Carabus, with the head and wings black, and the thorax red. 8. The yellowiſh-black Carabus, with the antennæ and legs black. 9. The black Carabus, with a ferrugineous ſpot, and a ferrugineous, tranſverſe line on the hinder part of the exterior wings. 10. The black Carabus, with the exterior wings greyiſh on the anterior part. 11. The black Carabus, with the legs and antennæ alſo black. 12. The pale, teſtaceous Carabus, with black, gloſſy eyes. 13. The black Carabus, with a ferrugineous thorax, and four livid ſpots on the exterior wings. 14. The grey Carabus, with the head, the belly, and the baſes of the wings black.

MORDELLA.

THE antennæ of the Mordella are ſlender, and have the laſt joint globoſe; moſt of the ſpecies have alſo legs which ſerve them for leaping.

Mordella

Mordella oblonga atra cauda aculeo terminata.
The oblong, black Mordella, with an aculeated tail.

This is a ſmall ſpecies; it's length is about a ſixth of an inch; it's breadth is not equal to half that meaſure: it's colour is black; it is ſmooth and ſomewhat gloſſy on the greater part of it's ſurface: the head is ſmall and inflected; the exterior wings are not at all ſtriated; the thorax is ſmooth, and very convex; the antennæ are very ſlender, truncated, and articulated: the body grows gradually ſmaller toward the tail, where it terminates in a ſharp point or prickle, which is black, and longer than the extremity of the wings, but is too weak to inflict a wound: the legs are ſlender, and conſiderably long, and it hops with them very nimbly.

It is frequent with us in the flowers of the dandelion and hawkweeds.

Mordella ſubrotunda atra opaca.
The roundiſh, opake, black Mordella.

This is a very ſmall ſpecies: it is ſhorter and thicker than the precedent, and approaches to a roundiſh figure: the head is ſmall; the thorax is elevated, and of a duſky deep black, not at all gloſſy; the exterior wings are of the ſame duſky black, and are ſomewhat ſhorter than the body; the legs are ſlender and long; it leaps very nimbly.

It is common in our gardens among the lettuces and endive: it has been called by ſome Gyrinus nigricans minor.

Mordella ovata, cærulea, nitida, tibiis ferrugineis.
The ſhining, blue, oval-bodied Mordella, with ferrugineous legs.

This is a very ſmall but a very elegant ſpecies; it is ſcarce larger than a flea: it's body is ſhort, and approaches to an oval form; it's thorax and back are both very convex and ſmooth, and it's colour a deep, but very beautiful and gloſſy, blue: it's legs are long; the thighs thick, robuſt, and whitiſh: the lower part of the legs ferrugineous; it hops very nimbly.

It is common in our gardens among the cabbages, while young. Ray calls it Capricornus exiguus ſaltatrix.

Mordella ſubrotunda atro-ænea.
The roundiſh, black Mordella, with a braſſy tinge.

This is one of the ſmalleſt of the Mordellæ; it is conſiderably leſs than a flea, and is all over of a deep, but very gloſſy, black, with a fine tinge of braſſy yellow in it: the belly and legs are of the ſame fine black, but without the yellow: the exterior wings are ſtriated, and the ſtriæ compoſed of five ſmall excavated ſpots.

It is not uncommon in our gardens early in ſpring.

The other ſpecies of Mordella are, 1. The yellow Mordella. 2. The roundiſh, mouſe-coloured Mordella. 3. The roundiſh, black, opake, but dotted Mordella. 4. The roundiſh, black, gloſſy Modella, with the antennæ and the legs yellow. 5. The oblong, black Mordella, with a ferrugineous ſpot in the middle of the exterior wings, and with the ſides of thoſe wings ferrugineous toward the baſe. 6. The oblong, black Mordella, with the exterior wings yellow all the way down the middle. 7. The reddiſh, brown Mordella, with the anterior legs dentated. 8. The black Mordella, with the exterior wings red at their extremities. 9. The brown, opake Mordella, with punctated, exterior wings. 10. The ferrugineous, brown Mordella, with the thorax depreſſed in the anterior part. 11. The Mordella, with the articulations of the antennæ lentiform, except the extream one, which is perfectly globoſe.

CICINDELA.

THE antennæ of the Cicindela are ſlender, oblong, and ſetaceous; the jaws are prominent and dentated; the thorax is of a roundiſh, but ſomewhat angulated, figure.

Cicindela ſupra viridis elytris punctis decem albis variegatis.
The green Cicindela, with ten white ſpots on the exterior wings.

This is one of the moſt elegant and beautiful Inſects of this claſs: it's whole upper ſurface glows with a rich gilded tinge among the green, which is itſelf an elegant colour, but with this addition ſtrikes the eye in a very uncommon manner: the exterior wings are ſmooth, gloſſy, and of this high colour, variegated with ten white ſpots, ſome of them roundiſh, ſome oblong, and one of a lunated figure, and the extremities of theſe wings are alſo white: the thorax is narrow, roundiſh, and of a very ſtrong green; the head is ſmall, depreſſed, and finely tinged with the gold colour: the eyes are black and prominent; the mouth alſo is prominent, and the upper lip is obtuſe and white: the upper jaws are prominent, and have ſeveral ſtrong teeth in them; the lower are only furniſhed with one tooth, and that at the extremity: there are two pair of antennæ, the one conſiſting only of two joints each, the other of four: the legs are very long and very ſlender, and there is a kind of hard, oval body at the baſe of the thighs: the longer antennæ are compoſed of ten joints, and are ſomewhat ſhorter than the body.

It is common in our paſtures in ſpring; it runs and flies very ſwiftly. Ray calls it Scarabæus viridis decem maculis albis.

Cicindela ænea elytris punctis latis excavatis.
The braſſy Cicindela, with broad excavated ſpots on the wings.

This is another very beautiful, though ſmall, ſpecies: it's colour is a fine, gloſſy, metalline-yellow, with ſome little admixture of green: it's eyes are black and prominent; it's thorax is narrow and rounded: the exterior wings are ornamented with a number of broad excavated ſpots, in the center of each of which there is a prominent point; theſe excavated ſpots are connected into ſeries, by a longitudinal elevated line of a deep black: the bottoms of them are of a fine braſſy-yellow; and, as the reſt of the wings is green, it is a very ſingular and very beautiful colour, that is produced by the mixture.

It is common with us about the banks of rivers, where it runs along the wet ſand very nimbly. Liſter calls it Scarabæus parvus inauratus.

Cicindela elytris viridi-cæruleſcentibus abdomine fulvo.
The Cicindela, with the exterior wings of a bluiſh-green, and the belly yellow.

The body of this ſpecies approaches to an oval figure; the head, the thorax, the antennæ, and the legs are all black: the belly is of a tawny colour, and is yelloweſt toward the hinder part: the exterior wings are of a very ſingular blue-green colour, and are variegated with hollow ſpots: the antennæ are ſlender, and conſiſt of ten joints.

It is frequent in the woods about Hampſtead.

The other ſpecies of Cicindela are, 1. The common oblong Cicindela. 2. The larger, ſhorter-bodied Cicindela. 3. The black Cicindela, with ſix white ſpots, and a white tranſverſe line on each of the exterior wings. 4. The black Cicindela, with a reddiſh thorax, and with bluiſh-black exterior wings. 5. The Cincidela, with a green thorax, and with the exterior wings ferrugineous toward the top, and of a bluiſh-black below.

BUPRESTIS.

THE antennæ of the Bupreſtis are ſlender and ſetaceous, and the head is half buried in the thorax, which is of a ſubcylindric figure.

Bupreſtis

Bupreſtis viridi-ænea immaculata.
The yellowiſh-green Bupreſtis, without ſpots.

This is a very beautiful Inſect: it's length is about half an inch; it's breadth near two thirds of it's length: the thorax is very large and broad, equalling the diameter of the wings; it is of a green colour, with a yellow braſſy caſt, and has ſeveral hollow ſpots upon it: the head is in a great meaſure received into, or immerſed under, the anterior part of this; the exterior wings are of a fine, gloſſy, metalline-yellow, with only a ſlight tinge of green, and they have each about eight ſtriæ on them.

This ſpecies is very common in damp places, near waters.

Bupreſtis fuſco-ænea, glabra, nitida, thorace ſumbarginato.
The browniſh braſſy Bupreſtis, with a ſubmarginated thorax.

This is a very ſmall ſpecies: the whole Inſect is of a gloſſy braſs-yellow, with an admixture of brown: the eyes are moderately large, and very prominent; the antennæ are ſhort: the thorax is ſhort, but it is broad, and hollowed, and ſlightly marginated: the exterior wings are very bright and gloſſy, and are finely ſtriated, the ſtriæ being formed of very minute and elegant points: the legs are ſlender and black, as is alſo the under ſurface of the body: the ſnout is prominent.

It is very frequent among the reeds on the little iſlands formed by the Thames, about Chiſwick and Brentford.

Bupreſtis æneo-nebuloſa antennis clavatis.
The braſſy and clouded Bupreſtis, with clavated antennæ.

This is a ſmall ſpecies, it ſcarce equals a flea in ſize; the belly and loweſt part of it's body is all black; on the upper part it it is all over of a braſſy yellow, with a mixture of brown in it; and it has a brown ſpot on the back, which touches both the wings: the exterior wings are very finely ſtriated; the thorax is marked with five oblique furrows: the thorax is large, and the head in a great meaſure is immerſed under it, and the body grows narrower toward the tail.

It is common with us about waters, and ſometimes under cool ſhady hedges.

Bupreſtis fuſco-ænea elytris maculis æneis impreſſis.
The Bupreſtis, of a duſky braſſy colour, with ſpots on the wings.

This is a moderately large ſpecies: it's head is drawn under the breaſt, as in the others, and the creature has thence a very odd aſpect: the thorax is of a braſſy colour, with an admixture of a reddiſh brown: the external wings alſo are of the ſame mixt colour, but with leſs of the reddiſh; each of them has four or five ſtriæ not very deep, and on each there are two ſpots ſo diſpoſed, that they make a ſquare figure together, when the wings are cloſed; theſe are of a bright and unmixed yellow.

It is a native of Virginia, and is ſometimes found alſo with us about the ſides of rivers. Petiver has figured it under the name of Cantharus Marianus elegans viridis vaginis ſulcatis, ſignaturis flaveſcentibus.

The other ſpecies of the Bupreſtis are, 1. The great black Bupreſtis, or great thick-necked, black, tree Beetle. 2. The greyiſh-yellow, gloſſy Bupreſtis, with the exterior wings attenuated toward the end. 3. The black ſmall Bupreſtis, with depreſſed ſpots on the thorax.

DYTISCUS.

THE antennæ of the Dytiſcus are uſually ſlender and ſetaceous, and it has feet formed for ſwimming, and muticous: it's habitation is generally alſo in the water.

Dytiſcus antennis fuſcis perfoliatis.
The Dytiſcus, with brown, perfoliated antennæ.

The great Water Beetle.

This is one of the largeſt of the European beetles: the body is an inch and half long, and all over of a deep and ſomewhat gloſſy black: the eyes are moderately large; the antennæ are ſhort, and the exterior wings are ſmooth on the ſurface: the body grows ſmaller, and becomes almoſt pointed at the extremity.

It is very common in our ponds and ditches: in it's worm-ſtate it is very large, and very deſtructive among the ſmaller water Inſects. Authors call it Hydrocantharus maximus.

Dytiſcus niger elytrorum marginibus dilatatis, flavis.
The black Dytiſcus, with the edges of the exterior wings dilated and yellow.

This is equal to the former ſpecies in ſize: the head is ſmall in proportion to the body; the eyes are large; the legs long and ſtrong; the edge of the exterior wings is very prominent, eſpecially about the middle, and is there of a yellow colour, which, as all the reſt of the Inſect is black, has a very ſingular appearance.

It is common with us in brooks and rivers.

Dytiſcus elytris ſtriis viginti dimidiatis.
The Dytiſcus, with twenty dimidiated ſtriæ on the exterior wings.

The goggle-eyed Water Beetle.

This is a very large beetle, but ſomewhat inferior to the two preceding ones in ſize: the head is large; the eyes are very prominent; the exterior wings have each ten ſtriæ, but they do not run the whole entire length of the wing; there is a ſmooth ſpace near the extremity.

It is frequent in our ponds and ditches: the ſtriæ are very deep, and the colour of the whole a blackiſh brown.

Dytiſcus cinereus margine elytrorum flavo, thoracis medietate flava.
The grey Dytiſcus, with half the thorax and the edges of the wings yellow.

This is a ſmall ſpecies, ſcarce exceeding the common blue fleſh-fly in bigneſs: it's thorax is yellow in the middle, but black at the top and bottom, not at the ſides: the exterior wings are of a greyiſh colour, and have on them a vaſt number of ſmall, lucid ſpecks, of a yellowiſh colour; their edges are entirely yellow: there is alſo a yellow ſpot of a cordated form, with black edges on the ſummit; and the apex of the ſternum is bifurcated but obtuſe.

The other ſpecies are, 1. The common, black, water Beetle. 2. The great, black Dytiſcus, with black, perforated antennæ. 3. The great Dytiſcus, with a yellow thorax. 4. The ſmall water Beetle, with brown wings and a black belly. 5. The ſmaller, round-bodied Dytiſcus, with ten longitudinal ſtriæ on the wings. 6. The ovato-oblong-bodied Dytiſcus, with the thorax and wings black, and the head and legs reddiſh. 7. The brown, oval Dytiſcus, with the legs, and the head, and thorax reddiſh. 8. The ſmooth, ſhort-horned Dytiſcus, with obtuſe points. This is called by ſome Pulex aquaticus, the water Flea; it plays very nimbly about the ſurface of the water, and at all times plunges to the bottom.

ELATER.

THE antennæ of the Elater are ſetaceous; the body is oblong: the creature, when laid on it's back, has a power of leaping with great force and agility.

Elater fuſco-viridi-æneus.
The Elater, of a mixed brown, green, and braſſy colour.

This is but a ſmall ſpecies: the body is oblong, and not very thick; the male has the thorax and exterior wings very bright, and with a great deal of green in them, and the antennæ are elegantly pectinated: the female is more yellow and braſſy in colour, and the thorax is broader, and of a gloſſy colour, with more green in it than in the wings, and the antennæ are not pectinated.

We find it frequently in June, in the meadows about Paddington.

Elater niger thorace rubro.
The black Elater, with the thorax red.

This is the ſmalleſt of all the ſpecies of this genus: it is all over black, but the exterior wings have ſomewhat of a bluiſh caſt in them, and are ſtriated: the thorax is almoſt entirely red, but it's anterior part is black: it has alſo a very ſlight verge of black on the hinder edge, toward the wings: upon the whole, the thorax has the appearance of a large, red, lunulated ſpot, the hollow part of which is turned toward the head: the antennæ are black, and are not pectinated.

This elegant ſpecies is very frequent in ſome of our paſtures under hedges; in other parts of the kingdom it is very ſcarce. I have a ſeen a great number of them near Pancras.

Elater totus nigro fuſcus.
The Elater all over of a browniſh black.

This is a moderately large ſpecies; the body is oblong, but is leſs long in proportion to it's breadth, than in the former: it's colour is uniform throughout, and is a greyiſh-brown, approaching to black: the head is ſmall, and the exterior wings are ſmooth, and ſomewhat gloſſy.

It is not uncommon in paſtures about London. Authors have called it Notopeda atra antennis ſimplicibus.

The other ſpecies of the Elater are, 1. The Elater, with the thorax hairy, and with the exterior wings teſtaceous, and black at the extremity. 2. The black Elater, with the exterior wings red. 3. The greeniſh and braſſy Elater, with yellow legs. 4. The black Elater, with blue, exterior wings. 5. The black Elater, with the exterior wings red in the anterior part. 6. The black Elater, with the exterior wings livid on the outer edge. 7. The red-breaſted Elater, with grey wings. 8. The black Elater, with brown wings, and with the antennæ and legs of a reddiſh brown.

CANTHARIS.

THE antennæ of the Cantharis are ſetaceous; the exterior wings are flexile; the thorax is ſomewhat flatted; and the ſides of the abdomen are plicated and papilloſe.

Cantharis cujus fœmina aptera. The Glow-
The Cantharis, the female of which has no wings. Worm.

The male of this ſpecies is a ſmall beetle; it's body is oblong and narrow, and it's colour a duſky black: the female, which is the ſex we moſt frequently meet with, and which we call the Glow-worm, is a ſmall, oblong-bodied Inſect; and though ſhe has no wings either of the thinner, or thicker kind, yet ſhews very evidently, by the ſcutum and form of her thorax, and by the folds and wrinkles of her body, that ſhe is of this claſs of Inſects: her body conſiſts of eleven joints, or has ſo many inciſures, the firſt of which is the incumbent Clypeus of the thorax; this is of a ſemi-oval figure, flatted, marginated, and truncated at the hinder part: the head is placed under this, and is very ſmall; the three laſt joints of the body are of a yellowiſh colour on the under ſurface, and theſe appear ignited or flaming in the dark.

It is not uncommon under our hedges, and, if taken carefully up, may be kept alive many days on freſh turfs of graſs, and will continue to ſhine in the dark. Ray calls the male of this ſpecies Scarabæus lampyris ſordide nigricans corpore longo anguſto, ſive Cicindela mas; and the other, or female, Cicindela impennis ſive fœmina.

Cantharis elytris nigricantibus, thorace rubro, nigra macula.
The Cantharis, with blackiſh, exterior wings, and with a red thorax, with a black ſpot.

This is a large ſpecies: it is more than half an inch long, and about a quarter of an inch in diameter, and is ſofter to the touch than the generality of the beetle kind: the head is flatted and black, but under the eyes ſomewhat reddiſh: the mouth is ſmall and forcipated; there are a pair of very ſhort and ſmall antennæ at the mouth: the others are about half the length of the body, and are compoſed of eleven joints; they are reddiſh toward their origin, and brown all the way thence to the extremity: the thorax is depreſſed on the hinder part, and cordated; the edges are ſomewhat prominent, and the whole is reddiſh, except that there is a black ſpot in the upper part contiguous to the head: the exterior wings are plain, ſmooth, of an oblong and linear figure, very ſoft and flexile, of a ſilky ſtructure, and of a browniſh-black colour: the body is brown, except that the laſt joint is reddiſh, and there is a tinge of the ſame colour all along the ſides; the ſides are all the way compreſſed, and the inciſures are laid in a plicated manner over one another; they are very ſoft, and their extremities are mammillary.

It is very frequent with us about houſes and under hedges. Ray calls it Cantharus ſepiarius major elytris nigricantibus, dorſo ſive thorace ſupino obſcure rufo.

Cantharis elytris rubris, thorace rubro, nigra macula.
The red-winged Cantharus, with a red thorax, with a black ſpot.

This is but a ſmall ſpecies: the body is black, but the exterior wings are of a bright and elegant red, and the breaſt is of the ſame colour, but has a ſpot of black in it: the antennæ are ſlender; the exterior wings are very ſoft, ſilky, and flexile; the under are thin and brown.

It is not very common with us. I found a great number of them, ſome years ſince, at Mount-Sorrel in Leiceſterſhire.

Cantharis elytris nigris faſciis duabus rubris.
The Cantharis, with the exterior wings black, with two red, tranſverſe lines.

This is a very ſmall ſpecies, it ſcarce exceeds a louſe in ſize: the legs and the antennæ are black; the head and the thorax are of a greeniſh colour; the exterior wings are of a deep, and ſomewhat gloſſy, black, and have each two tranſverſe ſtreaks of red on them; the one of theſe lines is near the baſe, the other very near the apex or extremity, and the ſides of the body are alſo reddiſh.

It is not uncommon under our hedges, and in paſtures; I have frequently met with it on the alcea, or vervain mallow.

The other ſpecies of the Cantharis are, 1. The large, yellowiſh, or orange-coloured, Cantharis, without ſpots. 2. The black-winged Cantharis, with a red thorax, and a black ſpot on it. 3. The red-winged Cantharis, with a black thorax, with a red ſpot on it, 4. The braſſy-green Cantharis, with the exterior wings reddiſh toward their edges. 5. The braſſy-green Cantharis, with the exterior wings red at the tips. 6. The black Cantharis, with the exterior wings yellow at the extremities. 7. The brown Cantharis, with the exterior wings yellowiſh at the extremity, and the breaſt reddiſh. 8. The black Cantharis, with livid wings.

TENEBRIO.

THE antennæ of the Tenebrio are ſlender, oblong, and filiform: the elytra are joined together, and there are no interior wings.

This genus differs extreamly from all the others in this ſingular deficiency, but the form and ſtructure of all it's other parts refer it to this claſs.

Tenebrio atra elytris acuminatis. **The ſtinking**
The black Tenebrio, with acuminated wings. **Beetle.**

This is a moderately large Inſect; it is all over of a coal black: the exterior wings are united all the way along their interior edges: the legs are long and ſlender; the antennæ are moderately long, and are compoſed of oblong joints, excepting the laſt, which is round: the thorax is marginated and punctated, and the exterior wings are rugoſe.

It is common about dunghils, and ſometimes in houſes. Mouffet and others call it Blatta fœtida; Petiver, Scarabæus impennis tardipes. It moves indeed very ſlowly.

Tenebrio atra elytris pone obtuſioribus.
The black Tenebrio, with the exterior wings rounded behind.

This is a moderately large ſpecies: it's back is ſomewhat prominent, and it's head is ſmall: the legs are long, and moderately thick, but it's motion is very ſlow: the whole body and wings are of a fine deep black, but with a glow of purpliſh in it.

It is frequent about our hot beds in gardens. Liſter deſcribes it under the name of Blatta rotundior violacea.

Tenebrio atra pone rotundata maxillis prominentibus.
The black Tenebrio rounded on the hinder part, and with prominent jaws.

This is a ſmall ſpecies, ſcarce exceeding the common large fly in ſize: the colour is a deep, but not gloſſy, black; the legs are long, and the thighs clavated: the antennæ are ſlender, and moderately long.

It is not uncommon with us in woods, among the heaps of decayed and half rotten branches; ſometimes we meet with it in hedges, but more rarely.

MELOE.

THE antennæ of the Meloë are ſlender and filiform: the exterior wings, or elytra, are dimidiated; and, as in the former genus, there are no interior ones.

Of this genus there is but one known ſpecies, which has been called by authors Proſcarabæus.

MELOE. The oil Beetle.

This is a large beetle: the body is oblong and moderately broad, but flattiſh, not very thick: the legs are long; the exterior wings are dimidiated: they are ſoft and coriaceous, or of a ſubſtance reſembling leather, and are rugoſe on the ſurface, and are black, but not at all gloſſy: the whole creature is of the ſame black colour, and is ſoft and unctuous to the touch: the body is longer in the female than in the male, ſhewing itſelf beyond the extremity of the exterior wings: if touched, it immediately exſudates drops of a very clear and limpid oil from all the joints of the legs.

It is very common in the ſummer months in our dry hilly paſtures. Authors call it Proſcarabæus, and Cantharus unctuoſus; ſome, Scarabæus mollis.

NECYDALIS.

THE antennæ of the Necydalis are ſetaceous: the exterior wings are dimidiated, and there are interior or membranaceous ones.

Necydalis

Necydalis elytrorum apice puncto flavo notato.
The Necydalis, with a yellow ſpot on the extremity of the elytra.

This is a ſmall Inſect, ſcarce exceeding a common louſe in ſize: the head is ſmall and black, but the jaws are yellow: the thorax is yellow, and is marginated: the exterior wings are black, but browniſh in the middle, and terminated by a yellow ſpot: the interior wings are black, and are of twice the length of the exterior, and lie in a cruciform manner over one another: the antennæ are nearly equal to the body in length, and are yellowiſh at the baſe, but black elſewhere: the body is brown, but ſomewhat yellowiſh at the ſides; the lower part of the legs alſo is yellowiſh.

It is not a very common ſpecies, but we meet with it ſometimes on the ranunculus's, both in our fields and gardens. I met with a conſiderable number in June laſt, near Boſton in Lincolnſhire.

Necydalis elytris apice lineola alba notatis.
The Necydalis, with a white line on the extremity of the exterior wings.

The head is black; the thorax is alſo black; it is oblong, and ſomewhat depreſſed, and has two elegant ſpots of white on it: the exterior wings are grey; they are angulated toward the baſe, and are ſcarce half ſo long as the body; they ſeparate at the extremities, and have each a white line in that part: the interior wings are half naked; they are croſſed, and are not drawn in under the others: the antennæ are twice as long as the body; they are of a grey colour; the legs alſo are grey, and they are thick in the upper part.

We have it in our hedges not very unfrequently. Some have called it a Cimex, others a Forficula, or Earwig, but both erroneouſly.

FORFICULA.

THE tail of the Forficula is a kind of forceps, capable of pinching: the exterior wings are very ſhort, or dimidiated: the antennæ are ſetaceous; and the interior wings are wholly covered or drawn under the exterior ſhort ones.

Forficula alis interioribus apice macula alba notatis.
The Forficula, with the interior wings marked with a white ſpot.

The common Earwig.

The antennæ of this well-known Inſect are long and ſlender; they conſiſt of thirteen or fourteen articulations: the covering of the thorax is flat, and is truncated in the anterior part, and rounded behind; it is black in the middle, and paler round the edges: the exterior wings are of a pale reddiſh brown; the interior ones are ſomewhat prominent beyond the extremities of the others, and their extremity has a white oval ſpot: the body is of a reddiſh brown, and is naked, and is armed at the extremity with a pair of crooked, connivent, ſharp claws, as it were, which form a kind of forceps.

It is very common about fruit and other vegetable ſubſtances. Authors call it Forficula, and Auricularia.

Forficula alis elytris concoloribus.
The Forficula, with the interior wings of the ſame colour with the exterior.

The leſſer Earwig.

This ſpecies is but about half the ſize of the former or common kind: it's body is of a bright cheſnut colour; it's head and thorax black: the exterior wings are alſo of a cheſnut colour, and ſo are the interior ones, which are ſomewhat prominent from under them: the forceps at the tail is uſually ſomewhat erect; the legs and the belly are paler than in the former, and the antennæ conſiſt only of ten articulations.

It is not uncommon with us about gardens and in hedges.

STAPHYLINUS.

THE antennæ of the Staphylinus are ſlender and filiform; there are two veſicles ſituated above the tail: the exterior wings are dimidiated and ſhort; the interior ones are covered by them.

Staphylinus ater glaber maxillis longitudine capitis.
The black, ſmooth Staphylinus, with the jaws of the length of the head.

The common Staphylinus.

This is an inch in length: the head, thorax, and exterior wings are of a deep ſhining black and ſmooth; but the exterior wings are ſometimes variegated with grey; they are ſhort and obtuſe: the body is of a deep, but leſs gloſſy black than the head; the legs are long and black: there are two hard, firm, long, and very ſharp horns in the front of the head.

It is frequent with us under ſhady hedges. Authors call it Staphylinus, and Staphylinus major.

Staphylinus rufus elytris cæruleis capite abdominiſque apice nigris.
The reddiſh brown Staphylinus, with blue wings, and the head and tail black.

This is a very elegant though ſmall Inſect; it is about the ſize of a common ant: the whole body is of a pale red, with an admixture of brown in it; but the head, and the three or four laſt rings of the body, are black: the exterior wings are of a ſtrong blue, without any variegation; the legs are reddiſh, but their joints black: the antennæ conſiſt of eleven joints, and are of a pale colour, except at the extremity, where they are black.

It is a ſcarce ſpecies; we ſometimes meet with it among the water-plants, at the edges of brooks and rivers.

Staphylinus pubeſcens cinereus nigro-nebuloſus.
The hoary Staphylinus, of a greyiſh colour, clouded with black.

This is a moderately large ſpecies: it's body is oblong, and in great part naked; it is of a greyiſh colour, with a braſſy tinge, and with clouded ſpots of black viſible through it, in conſiderable numbers: the head is large and flatted; the mouth is forcipated; the antennæ are compoſed of nine joints: the exterior wings are ſhort, and of a greyiſh-black, with a braſſy caſt: the tail is furniſhed with two plumoſe hairs; and, on preſſing the body, two white hooks are protruded from the ſame part.

It is not unfrequent with us on dunghils.

Staphylinus niger thorace æneo, elytris atro-cæruleis.
The black Staphylinus, with a braſſy thorax, and blackiſh-blue wings.

This is about half an inch in length; the body is ſlender and flatted: the head is black and gloſſy; the wings are of a deep blue, with an admixture of black, and are alſo bright and gloſſy; they are of a metalline hue, and have a number of very minute dark ſpots: the antennæ conſiſt of nine articulations; the colour of the whole Inſect ſometimes varies into a yellowiſh or braſſy one, but the ſpots on the thorax, when accurately examined, will always diſtinguiſh it; they are ten in number, and are hollowed.

We meet with it among the decayed timber in our woods, but not frequently.

The other ſpecies of Staphylinus are, 1. The black, hairy Staphylinus, with the thorax and the under part of the belly yellow. 2. The black Staphylinus, with red legs, and red exterior wings. 3. The reddiſh Staphylinus, with a black head. 4. The ferrugineous Staphylinus, with a black head. 5. The brown Staphylinus, with the lower part of the body, and the legs ferrugineous. 6. The ſmooth, black Staphylinus,

phylinus, with reddiſh legs. 7. The ſmooth, black Staphylinus, with the legs reddiſh, and the verge of the body yellow. 8. The black Staphylinus, with reddiſh legs, and the anterior part of the exterior wings grey. 9. The black Staphylinus, with crimſon wings. 10. The teſtaceous Staphylinus. 11. The black Staphylinus, with the thorax, the exterior wings, and the legs ſubteſtaceous. 12. The black Staphylinus, with the exterior wings, the legs, and the antennæ ferrugineous. 13. The black Staphylinus, with the exterior wings and the legs brown.

BLATTA.

THE antennæ of the Blatta are ſetaceous; there are two ſhort horns, as it were, above the tail: the exterior wings are membranaceous; and the thorax is flat, orbiculated, and marginated.

Blatta ferrugineo-fuſca, elytris ſulco ovato impreſſis.
The ferrugineous, brown Blatta, with the exterior wings furrowed in an oval form.

The mill Beetle.

This Inſect is of the ſize of the common cricket: it's colour is a deep, ferrugineous brown, approaching to black, reſembling that of burnt paper: this colour is uniform, without any variegation: the clypeus or ſhield that lies over the thorax is plain, oval, and tranſverſe: the exterior wings are of an oval figure; they are ſomewhat ſhorter than the body, and are in ſome degree tranſparent; each of them has three ſtriæ from the baſe, the intermediate one elevated, and the interior one hollow and crooked; this, with it's fellow, form an oval ſpace: there are two prickles at the tail, and the legs alſo are prickly: the male of this ſpecies has the exterior and interior wings perfect; the female has only the rudiments of both.

It is common with us in mills, bakers houſes, and elſewhere; it only comes out in the dark. Mouffet calls it Blatta molendinaria et piſtrinaria; Ray, Blatta mollis.

Blatta flaveſcens elytris nigro maculatis.
The yellow Blatta, with the exterior wings ſpotted with black.

This is a ſmall ſpecies, not exceeding a large fly in ſize: the clypeus or ſhield that covers the thorax is membranaceous, patent, of an oval figure, and marginated, and is ſemi-tranſparent: the exterior wings are membranaceous and pellucid; they are of a browniſh colour, and have elevated ſtriæ, and ſome black ſpots on them, but theſe not very numerous: the legs are of a horny appearance and prickly; the antennæ are long, and there are two articulated horns a little above the anus.

It is not met with, that I know of, in England, nor any where, except in the more northern countries, where it deſtroys the fiſh proviſions.

GRYLLUS.

THE antennæ of the Gryllus are ſetaceous: the exterior wings are membranaceous, narrow, and much of the appearance of the wings of ſome of the fly kind: the thorax is compreſſed and angulated: and the legs are formed for leaping.

Gryllus pedibus anticis palmatis.
The Gryllus, with the anterior feet palmated.

The Mole-Cricket.

This is the largeſt of all the Europæan winged Inſects: it is two inches and a half in length, and three quarters of an inch in diameter: it's colour is a duſky brown, which is deeper in the male, and more pale in the female: there grow from the extremity of the tail on each ſide two hairy long bodies, reſembling in ſome degree the tail of a mouſe: the body is formed of eight ſquammated joints, or has ſo many ſeparate folds, and is of a mixt fleſh colour, and brown on the upper part, and of a duſky brown below: the wings are long; they appear narrow and are acuminated, and each has a blackiſh line running down it: theſe, when expanded, are found to be much wider

WINGED INSECTS

FLIES

Œstri

The Breeze or Gad Fly

The Gray fly or Trumpet Fly

Astrus Sp. 7.

Astrus Sp. 5.

The Wasp Fly

The Hornet Fly

The great Tipula

The painted Tipula

Beetles

The Brass Beetle

The little Oval Beetle

The Unicorn Beetle

The Staghornd Beetle

The Rhinoceros Beetle

The Shining Beettle Sp. 3.

Demestes

Dermestes Sp. I. Sp. II.

Dermestes

Calsida

The green Tortoise Beetle

Calsida Sp. 3.

Calsida Sp. 2.

The Sawwort Beetle

Cerambyx Sp. 7.

Cerambyx Sp. 8.

Dytiscus Sp. 5

The Great Water Beetle

Mordella

Mordella Sp. 1.

Mordella Sp. 2.

Bupreftis

Cicindela Sp. 1.

Cicindela Sp. 5.

Buprestis Sp. 2.

Dytiscus Sp. 2.

Dytiscus Sp. 6.

Elateres

Elater Sp. 2.

Elater Sp. 6.

Cantharis

Cantharis Sp. 4.

Cantharis Sp. 5.

The Mill Beetle

Necydalis Sp. 2.

The Oil Beetle

Locusts

Staphylinus Sp. 3.

The Mole Crickett

The Spanish Locust

The Great Green Locust

The long bodied Mantis

The Common Mantis

The House Crickett

The Field Crickett

B. Cole Sculp.

wider than would be naturally imagined; they are in a ſtate of reſt, folded in a moſt accurate and elegant manner: the antennæ lie on the back, and are of about half the length of the wings: the clypeus of the breaſt is of a firm texture, of a blackiſh colour, and hairy: the anterior feet are of a very remarkable figure; they are palmated and hairy.

It is common in our fens, and other damp grounds. In Chiſwick gardens there always is a great number of them about the walks near the lower part of the canal: authors call it Gryllotalpa, and Talpa Inſectum: it is an extreamly ſingular creature, and naturally ſtartles any body at firſt ſight; and what appears the more odd in it is, that it runs backwards as readily and ſwiftly as forwards; it generally lives under ground, and digs very quick.

Gryllus fuſco-cineraſcens, alis punctis nigris maculatis.
The Gryllus, of a greyiſh-brown, with black ſpots on the wings.

The Spaniſh Locuſt.

This is about the length of the former ſpecies, but it is not nearly equal to it in thickneſs: it is of a very ſingular colour, a deep brown, with an admixture of a whitiſh grey; and there are a great number of little white dots at the origin of the wings: the exterior wings are beautifully ſpotted with little dots of black; the interior ones are reticulated: the body is compoſed of ſeven or eight joints; the legs are long; the hinder ones are very remarkably ſo, and very robuſt, and all of them are reddiſh on the inner ſide, and armed with a double ſeries of ſpines: the eyes are large, and are ſtriated with white.

It is a native of Spain, and other the warmer parts of Europe.

Gryllus incarnatus, femoribus ſanguineis elytris vireſcenti-ſubfuſcis.
The red Gryllus, with crimſon thighs, and browniſh-green wings.

This is a moderately large ſpecies; it conſiderably exceeds the common graſs-hopper in ſize: the body is of a pale fleſh colour on the upper part, and yellowiſh underneath; the legs are of a deep crimſon; the exterior wings are of a cloſe texture, and yellowiſh colour toward the top; lower down they are reticulated in the manner of the interior ones: the antennæ are of a cylindric figure, and are compoſed of four and twenty joints: the hinder pair of legs have a blackiſh hue, and white denticulations, and are terminated by four ungues; beſides thoſe of the palm, there is a ſharp protuberance in form of a ſpine on the breaſt, between the fore legs; this is yellowiſh; the reſt of the body is brown, with a mixture of reddiſh and bluiſh.

We have it in our paſtures in Yorkſhire, and elſewhere in the north of England: it is frequent alſo in moſt of the northern countries of Europe.

Gryllus cauda, enſifera recta, corpore ſubviridi.
The Gryllus, with a ſtraight enſiferous tail, and a greeniſh body.

The great green Locuſt.

This is a large ſpecies; it is near two inches in length, and about the thickneſs of a man's little finger; the breaſt is covered with a firm armature of a triangular figure, which is extended down ſideways toward the wings: the colour of the whole animal is a green, not a very bright one, with a conſiderable admixture of brown: the female has a kind of ſword at the hinder extremity of the body; it is formed of two parts, or longitudinal valves.

It is not unfrequent in paſtures in many parts of Europe: Ray calls it Locuſta viridis major; others only, Locuſta major.

The other ſpecies of the Gryllus are conſiderably numerous: of thoſe called Grylli or Crickets, there are, 1. The common houſe Cricket. 2. The narrow-bodied field Cricket. 3. The large brown Cricket. 4. The little ferrugineous Cricket, with two long hairs at the tail.

Of thoſe called by authors Locuſts, there are, 1. The common large Locuſt. 2. The thick-bodied Locuſt. 3. The great-legged Locuſt. 4. The common Graſs-hopper.

hopper. 5. The crooked-tailed Locuſt, called the Acrigonious, by Liſter and others. 6. The praying Locuſt, or Mantis. 7. The longer-bodied Mantis. 8. The deep, brown, larger Mantis. 9. The flat-bodied marginated Mantis. 10. The doubly marginated Locuſt. 11. The Locuſt, with a quadrifid creſt. 12. The large African brown Locuſt. 13. The Locuſta talpa, or mole Locuſt. 14. The Locuſt, with black rhomboidal ſpots on the back. 15. The long-bodied Locuſt, with an oblong and narrow thorax. 16. The long-bodied Italian Locuſt. 17. The green Locuſt, with the edges of the wings white. 18. The Locuſt, with the antennæ of the length of the body. 19. The thick Locuſt, with elegantly reticulated wings. 20. The Locuſt with clavated antennæ.

TETRAPTERA.

Or Inſects which have four wings.

Claſs the Second.

SCLEROPTERA.

Inſects which have four wings: the exterior flexile, and the interior membranaceous; and which have the aperture of the mouth bent under the breaſt.

CICADA.

THE antennæ of the Cicada are very ſhort: the ſnout is bent downward: the wings are cruciated; and the legs are contrived for leaping: the back is convex, and the thorax rounded.

The word Cicada is too generally underſtood to ſignify a graſs-hopper in the writings of the antients, but this is a great error; they expreſs by it a large four-winged fly of this genus, which is very common at this time in Italy, and many of the other warmer parts of Europe.

Cicada fuſca, elytris maculis binis albis lateralibus, faſcia duplici interrupta.
The Cicada, with brown wings, with two white ſpots on them, and a double white line.

The Cuckow Spit Inſect.

This is a ſmall ſpecies: it's body is oblong and obtuſe; it's head large, and it's eyes ſmall: the exterior wings are of a duſky brown, but have two very elegant white ſpots on them, and a broad, interrupted, tranſverſe double line of the ſame colour: the reſt of the body is of a duſky brown, and the head black; the colour however is not certain and invariable, but ſometimes it is all over greyiſh.

It is common with us on different plants of the lychnis and other kinds, where it is uſually covered with a kind of frothy matter reſembling ſpittle; this it does not diſcharge at the mouth, but at the anus, and from ſeveral other parts of the body: all the writers on Inſects have deſcribed it: Swammerdam calls it Locuſta pulex; Petiver, Ranatra bicolor capite nigricante; others, Vermis ſpumans.

Cicada elytris viridibus, capite flavo punctis nigris aſperſo.
The Cicada, with green wings, and with a yellow head, with black ſpots on it.

This is one of the largeſt of Cicadæ of our colder climates: it is of the length of a large fly, but is very narrow in proportion to that length: the exterior wings are of a deep and very beautiful green; the interior ones are of a bluiſh-grey: the covering of the thorax is alſo green, but of a paler green than the wings: the head is yellow, and has two large black ſpots on the hinder part, and ſeveral other ſmaller at the ſides, and there

there are ſome tranſverſe ſtriæ on the forehead: the body is of a bluiſh-grey, and the legs are yellowiſh.

It is common with us about the water plants in autumn. Ray calls it Locuſta pulex tertia; others have made it a ſpecies of the Gryllus, but improperly. I met with ſeveral of them, this laſt ſummer, on the reeds and among the ruſhes about the edges of Whitleſea-meer in the Iſle of Ely.

Cicada elytris flavis linea abrupta, duplici, longitudinali, nigra.
The Cicada, with yellow exterior wings, with a double, longitudinal, abrupt, black line.

This is about the ſize of the common fly: it is all over of a beautiful yellow, except that, when the wings are cloſe, there appears on each ſide of the back a longitudinal black line, which is continued or divided towards it's middle, ſo as to form, as it were, two lines, the one running from the thorax, the other from the tail to the middle, where they are obliquely ſeparated; the two upper parts of theſe lines unite near the thorax, and there is on each ſide a black ſpot on the head and thorax, the two alſo uniting into one: the antennæ are ſhort; the forehead has ſeveral ſlight tranſverſe furrows on it: the body, when the wings are expanded, is ſeen to be yellow in the middle, and black at each ſide.

We have it among the high graſs in our paſtures in June.

The other ſpecies are, 1. The common Italian Cicada, or true Cicada: this is an inch long, and more than half an inch broad, and of a duſky brown. 2. The ſmaller Italian Cicada. 3. The brown Cicada, with wings ſpotted with paler brown, and with punctated nerves. 4. The black Cicada, with three equal tranſverſe white lines. 5. The yellow Cicada, with the wings ſpotted with brown, and with four black ſpots on them, yellow in the hinder part. 6. The whitiſh Cicada, with a black longitudinal line on each ſide. 7. The black Cicada, with white eyes. 8. The black Cicada, with the edges of the exterior wings white. 9. The black Cicada, with a white head. 10. The Cicada, with a bicornate thorax lengthened behind, and with naked wings. 11. The Cicada, with the exterior wings ſtriated with black and white, called, by moſt authors, the common Locuſta pulex. 12. The yellow compreſſed Cicada. 13. The Cicada, with greeniſh-yellow wings, with the extremities black and gilded, common on the leaves of the elm, and very nimble in it's motions. 14. The yellow Cicada, with the extremities of the wings white and membranaceous. 15. The Chineſe Laternaria. 16. The American Laternaria, or larger yellow compreſſed Cicada. 17. The Manna Cicada. 18. The leaſt, white Cicada.

CIMEX.

THE roſtrum of the Cimex is inflected; the antennæ conſiſt each of four joints: the wings are four, and are cruciated; the legs are formed for running, not leaping; the back is plain, and the thorax is marginated: ſome of them paſs a great part of their life without wings, ſome even the whole, ſo far as is yet known of certainty.

Cimex ſubrotundus viridis, margine undique flavo.
The roundiſh green Cimex, with a yellow border round it.

The green and yellow Bug.

This is of the ſize of the common fly, but flatted: the body is of a rounded figure, but ſomewhat approaching to oval: the antennæ are ſlender and green, and the loweſt joint of them is very ſmall: the head, the thorax, and the exterior wings are of a bright green, and ſomewhat ſcabrous: the belly is green, but the back of the body is black; the ſnout has four joints; the tongue is ſetaceous, and is immerſed longitudinally in the ſnout; a yellow margin, or edge, ſurrounds the whole body.

It is frequent with us in gardens, about the eſculent plants.

Cimex ovatus cæruleſcenti-æneus punctо albo rubrove ſignatus.
The braſſy-blue Cimex, with a white or red ſpot on the back.

This is of the ſize of the common large blue fly, but it is more flatted: it's whole upper ſurface is of a beautiful blue, but with a braſſy tinge in it: there is a longitudinal line on the thorax, which, at it's lower extremity, terminates in a tranſverſe one: the extremity of the ſcutellum is either red or white, and there is alſo a ſpot of the ſame colour on each ſide of it: the legs and the antennæ are black, and the body underneath is alſo of a bluiſh-black: the ſpots on the male are white, and thoſe on the female are red.

It is found on the Dipſacus, and ſome other large plants, and is common to us, and to moſt parts of America: Ray, and Sir Hans Sloan, have deſcribed it.

Cimex oblongus rubro nigroque variegatus alis fuſcis, immaculatis.
The oblong-bodied, red and black Cimex, with plane brown wings.

The Henbane Cimex.

This is an extreamly beautiful Inſect: it is of an oblong ſhape, and it's body is much narrower than in either of the former; the head is black, except in the very middle, where it is of a bright red: the thorax is black at it's anterior extremity, and red everywhere elſe, except that it has two angulated black ſpots behind: the exterior wings are red, but they have each a black ſpot in the middle, ſo that, when they are cloſed, there are two black ſpots on the back: the ſcutellum is black, but it's extremity red; the body under the ſcutellum is black, the reſt of the body is red, but juſt near the anus black: the wings are brown and ſtriated, but have no white ſpots on them; the antennæ and the legs are black, and the trunk or ſnout conſiſts of four joints.

It is frequent with us on the ſtalks and leaves of the common Henbane, or Hyoſcyamus: Liſter, Ray, and Petiver have all deſcribed it under the names of Cimex Hyoſyami, and Cimex Hyoſcyamoides.

The other ſpecies of the Cimex are conſiderably numerous, and as ſome of them have oblong, and others rounder bodies, they may conveniently be enumerated under two ſeries, according to that obvious diſtinction. 1. Of thoſe which have rounder bodies, or are of a figure approaching to round, there are, 1. The common houſe Bug, or Cimex lectularius, ſo troubleſome about our beds; there are authors who pretend that this ſpecies has wings at a certain period. 2. The oval-bodied black Cimex, with an arcuated trunk, and capillaceous antennæ. 3. The black Cimex, with a flat body imbricated, and notched at the ſides. 4. The grey Cimex, with the edge of the body ſpotted with black. 5. The grey oval Cimex, with the thorax obtuſely angulated on each ſide, and with red legs. 6. The grey oval Cimex, with the thorax on each ſide angulated and acuminated, with reddiſh antennæ. 7. The red Cimex, with brown wings. 8. The black oval Cimex, with the exterior wings black and white, and the interior ones white. 9. The oval Cimex, attenuated in the anterior part, with a greyiſh-white body, and red antennæ. 10. The grey oval Cimex, with clouded wings, and the edges of the body variegated with black and white. 11. The oval Cimex, with livid wings, brown at the extremity. 12. The greyiſh clouded Cimex, with three elevated lines on the ſcutum, and the antennæ black at the extremity. 13. The roundiſh, black and red Cimex, with the head and wings black.

2. Of thoſe of an oblong and narrower form, there are, 1. The reddiſh, brown, unſpotted Cimex, with the thorax terminating in a point at each end. 2. The oblong green Cimex, with a cordated yellow ſpot on the ſcutellum, and a double black ſpot on the exterior wings. 3. The red and black Cimex, with brown wings ſpotted with white. 4. The grey Cimex, with a cordated yellow ſpot on the ſcutellum. 5. The green Cimex, with a deep green cordated ſpot on the ſcutellum, and two brown ones on the wings. 6. The grey unſpotted Cimex, with ſetaceous antennæ. 7. The brown and white clouded Cimex of the poplar. 8. The rubiginous Cimex, with blood-red ſtriæ on the wings. 9. The black Cimex, with red legs, and with brown and white wings. 10. The brown and yellow Cimex, with the anterior thighs dentated. 11. The black Cimex, with the exterior wings variegated with white. 12.

The black Cimex, with the wings of a greyiſh brown, and a rhomboidal black ſpot on each. 13. The black Cimex, with the antennæ and the legs yellow. 14. The black Cimex, with the exterior wings very finely ſtriated, and the anterior ones marked with a yellow ſpot at the extremity. 15. The black Cimex, with the antennæ terminated each by a hair. 16. The black Cimex, with grey wings black in the anterior part, and with the interior wings white behind. 17. The whitiſh Cimex, with white ſides. 18. The red-legged, black Cimex, with the exterior wings variegated with brown and and yellow. 19. The black-horned, pale-brown Cimex, with a white line on the thorax. 20. The black Cimex, with the exterior wings white, and the antennæ of a bluiſh colour, but with the loweſt joint black. 21. The very narrow Cimex, with very long antennæ, variegated with brown and white. 22. The very narrow Cimex, with the forelegs extreamly ſhort; this is very frequent ſkimming on the ſurface of waters. 23. The ſmall, black, water Cimex, with the anterior legs very ſhort. 24. The very ſlender, whitiſh Cimex, with all the legs long. 25. The Cimex, with clavated antennæ, and with the edges of the exterior wings and thorax beautifully reticulated and punctated.

NOTONECTA.

THE roſtrum or ſnout of the Notonecta is inflected: the antennæ are very ſhort; the wings are four, and are cruciated; the legs are formed for ſwimming.

Notonecta griſea elytris griſeis margine fuſco punctatis.
The Notonecta, with the exterior wings greyiſh, but ſpotted with brown at the edges.

The common Boat-fly.

This is more than half an inch in length, and about a third of it's length in breadth: the head is obtuſe and yellow; the eyes are brown, the thorax is large, and is of a yellow colour, and ſomewhat pellucid: the ſcutellum is black, and has a fine velvety gloſs in it: the exterior wings are of a yellowiſh grey, and are ſpotted with black all round the edges; the interior ones are whitiſh and pellucid: the fore feet are ſhort, and the middle ones longer: the hinder ones are much longer than any of the others, and are formed for ſwimming; the trunk or ſnout is long and ſharp-pointed; the antennæ are very ſhort, and conſiſt only of two joints: the belly is black and hairy.

It is common with us in fiſh-ponds and other waters, and, when taken out, will give a very painful wound with it's trunk. Authors call it, Notonecta vulgaris, and Cimex aquaticus anguſtior.

Notonecta alis exterioribus pallidis tranſverſe ſtriatis.
The Notonecta, with pale and tranſverſely ſtriated elytra.

The brown Boat-fly.

This is near half an inch in length, and is ſomewhat broader and more depreſſed than the former: it's head is yellow; it's legs alſo are yellow: the thorax and the exterior wings are brown, and have a multitude of fine, ſlender, tranſverſe ſtriæ on them, of a pale yellow colour; the under part of the body is yellowiſh, and the eyes are black.

It is common with us in waters, and has an ill ſmell. Authors have called it Notonecta compreſſa fuſca.

Notonecta cinerea pedibus poſterioribus longiſſimis.
The grey Notonecta, with the hinder legs very long.

The little Boat-fly.

This is extreamly ſmall, ſcarce arriving to half the bigneſs of the common louſe: it's colour is all over a pale whitiſh-grey; it's back is flatted, and has a longitudinal line running along it: the anterior legs are remarkably ſhort, the hinder ones as remarkably long: the antennæ are very ſhort.

It is not unfrequent with us in ſhallow, running waters.

The

The other ſpecies are, 1. The great, black Notonecta of the Eaſt Indies. 2. The black and white, ſmaller Notonecta. 3. The broader, brown Notonecta. 4. The little yellowiſh, ſtriated Notonecta.

NEPA.

THE roſtrum, or ſnout, of the Nepa is inflected: the antennæ are formed into a kind of claws; the wings are four, and are cruciated: the legs are only four.

Nepa abdominis margine integro.
The Nepa, with the edge of the abdomen undivided.

The Water Scorpion.

This is a large Inſect; it is near an inch in length, and about half it's length in breadth; it's body is of a kind of elliptic form, very flat and thin, and it's tail long and pointed: it's head is ſmall; the antennæ have much the appearance of legs or arms, reſembling the claws of a crab, or ſcorpion, but they have no ſharp points: the breaſt is ſomewhat acute underneath; the tail is formed of two capillaments, which eaſily ſeparate: the legs are ſlender; the body is compoſed of ſeveral joints, and the anus is remarkably large: the trunk is long and ſharp; the exterior wings are of a deep, blackiſh, olive colour; the interior ones white or reddiſh.

It is common in ponds, and is a very great deſtroyer of the other water Inſects. Moſt of the writers on theſe ſubjects have deſcribed it; Mouffet calls it Scorpius aquaticus; others, Scorpio paluſtris, and Araneus aquaticus.

Nepa abdominis margine ſerrato.
The Nepa, with the edge of the body ſerrated.

This is about a third of an inch in length, and is broader in proportion than the former ſpecies: it's back is ſomewhat elevated, and it's colour is a pale brown, with a tinge of the olive: it's head is ſmall, and the eyes black, the whole edge of it's body is finely ſerrated: it's claws are ſmaller, in proportion, than in the former, but of the ſame form.

We have it in great abundance in our trout rivers in Buckinghamſhire.

CHERMES.

THE roſtrum or trunk of the Chermes is ſituated under the breaſt: the abdomen is pointed at the hinder extremity; the wings are four, and lateral; the legs are formed for leaping.

The Inſect, called Kermes in the ſhops, is not of this genus, but of the ſame with Coccus Polonicus, hereafter to be mentioned under the name of Coccus.

Chermes alni.
The Chermes of the alder.

The Alder-bug.

This is a ſmall Inſect; it's body is of an acuminated figure, it's colour white; it's eyes are lateral and prominent; it's legs are ſix in number; it's tail is acuminated and bifurcate, and over it there is a prominent ſtyle: the antennæ are variegated; the mouth is ſituated under the belly, between the inſertion of the firſt and ſecond pair of legs, and is blackiſh; the wings are four, and are white, variegated with brown veins. This Inſect, in the worm-ſtate, is about the bigneſs of the louſe; it's body is flatted, and it's colour green and ſpotted; the belly is obtuſe and elevated behind, and is blackiſh toward the extremity; the antennæ are ſlender, ſtraight, and part black, part white; there are a number of white, reflex hairs, which have their origin at the tail, and cover almoſt the whole body.

It is very common on the alder.

Chermes abietis.
The Chermes of the fir. **The Fir-tree Bug.**

This is a ſmall ſpecies; it is of an oblong figure, and whitiſh colour: the head is ſmall, the eyes are moderately large and prominent; their colour brown, with a ſmall ſpeck of black between them; the antennæ are ſetaceous, and very minute, and there is a quantity of a woolly matter growing at the tail: the wings in the flying ſtate are four; they are thin and whitiſh.

It is common on the fir and pine-kinds, and ſometimes on the yew and other trees: on the trunks, and ſometimes at the extremities of the branches, of theſe, there are found protuberances reſembling ſtrawberries in figure, and covered with a kind of ſquammulæ or ſcales; under and between theſe there are found many of theſe little Inſects, and uſually near their baſe the parent animal conſiderably larger: the whole protuberance reſembles a green ſtrawberry, and is ſurrounded with leaves at it's baſe.

Chermes graminis.
The Chermes of graſs. **The graſs Bug.**

This is a moderately large ſpecies: it's body is ſomewhat depreſſed and broad, and it's head very obtuſe: this and the thorax are grey, and are variegated with ſeveral white lines; the antennæ are white, except at the tips, where they are blackiſh; the wings are four; they are not cruciated, as in the cicadæ, a ſpecies of which genus this Inſect might at firſt ſight be very naturally taken for, but are deflex as in the phalenæ; the body is blackiſh, but the ſegments white at their edges; the legs are whitiſh, and the wings tranſparent, but ornamented with a number of brown lines, which make various anaſtomoſes with one another.

It is found on the ſtalks of graſs in our meadows in June, and is frequent about Hampſtead.

The other ſpecies of the Chermes are, 1. The Chermes of the elm, inhabiting it's curled leaves. 2. The Chermes of the ceraſtium, living in it's monſtrous heads. 3. The Chermes of the maple. 4. The Chermes of the birch. 5. The Chermes of the pine, living on it's unaltered branches. 6. The Chermes of the willow. 7. The Chermes of the nettle. 8. The Chermes of the aſh. 9. The Chermes of the poplar. 10. The Chermes of the apple-tree. 11. The Chermes of the chamædrys. Whatever others may hereafter be deſcribed, may be all named diſtinctively in this manner, from the trees and plants they are found on.

APHIS.

THE trunk of the Aphis is reflex: the body is formed into two horns behind; the wings are four and erect, or they are wanting; the legs are formed for walking not leaping.

Aphis ribis.
The Aphis of the currant. **The currant Louſe.**

This is about the ſize of the common louſe, and is of a browniſh green colour, and generally lies flat on the leaves or branches; the legs are green, and the joints of the knees uſually ſtand up above the body, and are brown: the antennæ are longer than the body; they are ſlender, ſtraight, black, and have a joint at which they are bent near the head: the hinder part of the thorax is blackiſh, and there are three tranſverſe and nearly contiguous lines on the hips: the ſides of the body are variegated with ſome ſmall black ſpots: the wings are placed erect; they are compreſſed and whitiſh, but have ſome black veins in them: two of them are very ſmall: the anus is prominent, and has two ſetaceous appendages ſhorter than the wings.

It is very common on our currant-buſhes, living uſually on the under ſide of the leaves.

Aphis aceris.
The Aphis of the maple. **The maple Louſe.**

This is ſomewhat larger than the former ſpecies, and it's body is more flatted; it has ſcarce any viſible horns or appendages behind; thoſe which there are, are very obtuſe: the back of the body is covered with little rough protuberances, and has on it's hinder part a large black ſpot of a cordated form: the head and the thorax are black in the middle, and the antennæ are ſetaceous at their extremity.

It is frequent on the common ſmaller maple in May and June.

Aphis tiliæ.
The Aphis of the lime-tree. **The lime-tree Louſe.**

The body is of an oblong form, and has four ſeries of black ſpots on the back; on the thorax there is alſo on each ſide a lateral line, which is black: the legs and the antennæ are alternately black and white; the wings are aſcendent and compreſſed, and are black on the lower edge, and on the upper they are variegated with ſome black ſpots.

It is common on the branches and leaves of the lime-tree. Authors have called it Pediculus arboreus, the tree Louſe.

The other ſpecies of Aphis are, 1. The Aphis of the elm. 2. The Aphis of the carrot. 3. The Aphis of the elder. 4. The Aphis of the dock. 5. The Aphis of the roſe. 6. The Aphis of the nymphæa, and other water-plants. 7. The Aphis of the ſerratula. 8. The Aphis of the thiſtles. 9. The Aphis of wormwood. 10. The Aphis of the jacea. 11. The Aphis of the birch. 12. The Aphis of the pine. 13. The Aphis of the cucubalus.

COCCUS.

THE trunk of the Coccus ariſes from the breaſt; the body is ſetoſe behind: the wings are only two; they are placed erect, and only the males have them.

This genus contains the gall Inſects and progaæ Inſects of Reaumur.

Coccus ilicis.
The Coccus of the ilex. **The Kermes.**

The female of this ſpecies, which is what we know by the name of Kermes in the ſhops, is, when full grown, of a roundiſh figure, and of a deep purpliſh-blue colour, covered with a fine whitiſh, or greyiſh, duſt, like that on the ſurface of a ripe plum: in this ſtate it is not eaſy to diſtinguiſh it's limbs, or indeed it's natural form; it's being diſtended by young at this period alters, and, in a manner, deſtroys it's figure; it adheres in this ſtate to the leaves and young ſhoots of the ilex, and is collected thence for the ſhops; before this period it runs about on the branches, and has it's form more regular; it's colour is red, and it's body oblong; it's legs and it's antennæ are at that time diſcoverable, and it has uſually a kind of downy or cottony white matter about it. The male is a very ſmall fly, which would ſcarce be ſuppoſed to belong to the ſame ſpecies, if it were not ſeen impregnating the females: it's body is oblong, it's head ſmall, it's eyes little and black, and it's wings whitiſh, and full of brown and ſomewhat rigid nerves.

The female, in the full grown ſtate, is gathered in vaſt quantities for the uſe of the dyers, for their ſcarlet colour, and to be kept in the ſhops as a cordial: at that period it appears rather like an excreſcence than an animal, and has indeed been in general ſuppoſed to be ſuch.

It is frequent on the ilex or holm-oak in Provence, and ſome other places.

Coccus radicum purpureus.
The purple Coccus of the roots of plants.

The Poland Scarlet-grain.

This ſpecies, when full grown, is of the bigneſs of a ſmall pepper-corn, or thereabout: it's figure is roundiſh; there is little appearance of limbs, or indeed of the form of an animal: It ſticks firmly to the root of the plant on which it feeds, and it's colour is a deep purple, with ſo much of the blue in it, that it approaches to a violet tint, and it has round about it, at the baſe, a rough cup, as it were, in ſome degree, reſembling the cup of an acorn. Such is the ſtate in which it is gathered for uſe, and in this ſtate there are found ſometimes three or four of them on the ſame root, ſometimes only one. From theſe round forms, which appear excreſcences on the root, there afterwards are produced a great number of young; theſe have all the regular appearances of animals, though the parent wants almoſt all of them: they are ſmall, oblong, and ſomewhat flatted; their bodies are formed of ſeveral ſegments, and they have ſix legs, which are ſhort and ſlender, and a pair of fine antennæ; their colour is purple, but a leſs deep tint than in the parent: When theſe have grown to their full ſize, they fix themſelves to the root of the plant, and, forming that cup about them, they never remove afterwards, but become diſtended with a numerous progeny, and die, leaving the young brood under the caſe they at that time form with their own ſkin: this is the condition of the females: the male of the ſame ſpecies is a ſmall two-winged fly, which is ſeen impregnating the females, and could by no other means be diſcovered to be of the ſame ſpecies.

This Inſect is frequent in Poland, and in ſome other of the northern countries. It is moſt frequently found adhering to the roots of the plant, thence called, by C. Bauhine, Polygonum cocciferum; and, by Tournefort, Alchemilla gramineo folio flore majore. I have met with it in England, at the roots of the common Potentilla, or Argentina; and it has been found at the roots of other plants. It makes an excellent ſcarlet dye.

Coccus Tunæ.
The Coccus of the Tuna.

Cochineal.

The Cochineal, though ſo long known in Europe, has been, till of late, miſtook extreamly in it's nature; it was long taken for a vegetable production; a ſeed, or an excreſcence of a plant, and, when it afterwards was acknowledged to be an animal, it was generally ſaid to be of the beetle kind, and very like our lady-cow. We owe the true knowledge of what it is, in a great meaſure, to a number of atteſtations given upon oath on the ſpot where it is produced, and by perſons concerned in the management of it, who obſerved it very ſtrictly, that they might do juſtice in the deciding a wager between two mercantile people on the ſubject. By this accidental method, the European naturaliſts became informed of a thing they would otherwiſe have perhaps continued long in the dark about; and learnt, that the Cochineal we uſe, is the female of an Inſect, the male of which is a fly, but this female a reptile without wings, living on the Tuna or Opuntia, the Indian fig, on the juices of which it feeds.

The female, which we know under the name of Coccinella and Cochineal, is, while living, a little Inſect of an oblong form, rounded on the back, and flat on the belly, of a mixt colour of purple and grey, and, when cruſhed, it yields a rich purple juice. It's body is compoſed of ſeveral rings or joints; it's head is ſmall; it's eyes are little and black; it's legs are ſix in number, they are ſhort and ſlender, and are of a pale fleſh-colour; it's antennæ are ſhort and ſlender, and of the ſame pale red: It never leaves the plant it feeds on, but produces it's young ones on it, and dies: the male is a little fly, with ſlender antennæ, long legs, an oblong body, and white large wings, ſomewhat reſembling thoſe of our butter-flies, not tranſparent as in the common fly.

It is frequent wild in Mexico, and ſome other parts of South America; but the people of Mexico, in particular, find it ſo very advantageous an article of commerce, that they make plantations of the Tuna, on purpoſe for the raiſing it, where they regularly breed and manage their crops: vaſt quantities are annually imported into Europe, and are uſed in dying and in medicine.

Coccus heſperidum,
The Coccus of the orange-tree. **The green Houſe-bug.**

This is a very extraordinary Inſect, and has ſo little the appearance of the animal kingdom, that, though it has been at all times very abundant in our ſtoves and green-houſes, it was very long before it was ſuſpected to be an Inſect, or acquired the honourable name of the green Houſe-bug: it is a ſmall creature, of an oval figure and flat; it adheres firmly to the bark or leaves of trees; it's back is a little prominent, and it's belly hollowed; and it is obtuſe at the anterior part, and emarginated, or, as it were, bifid at the poſterior. What we thus ſee of it, is a kind of ſhell or covering, within which, the body of the creature is incloſed: this is ſmall and flat; the legs are ſix, and they are very ſlender; the eyes are very ſmall and black, and the antennæ are ſlender: the whole Inſect is of a greeniſh colour; it can thruſt out it's legs at pleaſure, and there is a period of it's life, in which it moves about, though but ſlowly; but, for the far greater part, it adheres firmly to the leaf, remaining in it's place, and ſucking the juices: this is the female of the ſpecies: the male is a ſmall fly, very inconſiderable in proportion to the female in ſize: it's body is ſlender and oblong; it's legs long; it's antennæ ſhort, and it's wings white.

The female is frequent on our orange and lemon trees, and on many of the others, preſerved in our ſtoves and green-houſes.

Coccus aquaticus.
The water Coccus.

This is a ſmall ſpecies: it's body is of an oval figure, and is elevated and rounded on the back, and flat on the belly: it's colour is brown, and, from it's hinder extremity, it thruſts out a kind of white hairy beard, which is bifid and gelatinous; near this extremity of the body, there is placed an obtuſe tubercle; and, near the other extremity, an acute one.

It is common on the leaves of the little water lily, and ſome other water plants: it very rarely ſhews it's legs; when it does, they are ſlender and ſomewhat hairy: the male is a ſmall fly, with ſilky whitiſh wings, ſpotted with brown.

Coccus betulæ.
The Coccus of the birch-tree.

This is a larger ſpecies than any of the former: it's body is oblong, ſomewhat hairy, and compoſed of ſeveral rings or joints: the legs are ſhort, and the antennæ very ſlender: it is of a deep duſky olive colour.

It is frequent in our woods, on the beech, the birch, the broad-leaved elm, and ſeveral other trees: it is uſually found ſingle, affixed to their branches at their divarications: the male is a little fly, with duſky brown wings.

Coccus Inſectorum.
The Coccus of Inſects.

This differs from the others, as much in ſhape, as in the place where it is found: it is a very ſmall ſpecies: it's body is of an oval ſhape, and has an acute edge; it is ſomewhat convex, and of a reddiſh-brown colour; the ſurface of the whole body is ſmooth, but not gloſſy; the legs are very ſhort, and the antennæ ſcarce viſible.

It is frequent on the bodies of ſome of the larger beetles, where it paſſes the greater part of it's life, without changing it's place: there are uſually a great number of them on the ſame Inſect.

The other ſpecies of the Coccus are, 1. The Coccus of the canary-graſs; this is fixed to the roots of that plant, in the manner of the firſt ſpecies. 2. The Coccus of the Jacobæa; this is found on many of the compoſite flowered plants. 3. The Coccus of the alder. 4. The Coccus of the ſloe and peach-tree.

THRIPS.

THE roſtrum or ſnout of the Thrips is obſcure; the body is of a linear figure: the wings are four; they are incumbent on the back, and are ſtraight.

Thrips elytris glaucis corpore atro.
The Thrips, with bluiſh wings, and a black body.

This is an extreamly ſmall Inſect, not nearly equal to a flea in ſize: it's wings are four, and thoſe very ſmall and delicate; it's legs are ſix, two ſituated at the neck, and four on the thorax: the antennæ are very ſlender, black, and compoſed of ſix articulations: the exterior wings are of a greyiſh colour, very narrow, and hairy at the extremities, and at the edges: it runs very ſwiftly, and frequently twiſts it's body into a variety of ſhapes, but it very rarely flies.

It is frequent in the flowers of the dandelion, and others of that kind.

Thrips corpore atro, elytris albis nigriſque faſciis variegatis.
The black-bodied Thrips, with the exterior wings variegated, with black and white faſciæ.

This ſpecies is about the ſize of a louſe: it's body is oblong and ſlender; it's exterior wings are very beautifully variegated, with alternate tranſverſe ſtreaks of black and white, three of each colour.

It is found very often in the flowers of the larger hawk-weeds, and ſome other plants of that claſs: it runs very ſwiftly, but does not fly, unleſs hunted very much.

Thrips elytris albis, corpore fuſco.
The Thrips, with a brown body, and ſnow-white wings.

This is a very beautiful ſpecies: it is of the ſize of the former, and appears of a mixt black and white colour; but, when nearly examined, it is found to be of a coal-black on the body, and the exterior wings being of a ſnow-white, and not perfectly covering the body, give this appearance: the legs are ſhort; the antennæ are very ſlender, and compoſed of five joints.

It is found on the Bermudas Cedars, as they are called, properly the American Junipers in our gardens, but is not common.

TETRAPTERA.

Inſects having four wings.

Claſs the Third.

NEUROPTERA.

Thoſe which have membranaceous wings, with nerves and veins diſpoſed in a reticulated form in them.

PANORPA.

THE roſtrum, or trunk, of the Panorpa is of a cylindric figure, and horny ſtructure; and there is a weapon of the cheliform kind at the tail.

Of this ſingular genus there is but one known ſpecies.

PANORPA. The Scorpion Fly.

This is a fly of a moderate ſize: it's body is oblong and rounded; it's head is ſmall, and is terminated by a hard, horny, oblong ſnout, which is prominent downwards: the antennæ are ſetaceous, black, and compoſed of no leſs than thirty articulations: the back is brown, the ſides are yellow, the wings are white, but have ſome duſky ſpots on them, which are diſpoſed in tranſverſe ſeries, forming a kind of lines; the tail is articulated, and is terminated by a weapon, reſembling that of the ſcorpion, which is bifid: ſome of the ſame ſpecies want this weapon, but this is only the difference of ſex, the females alone having it.

The fly is common in our paſtures in July: authors call it Muſca Scorpiura.

RAPHIDIA.

THE head of the Raphidia is of a horny ſubſtance, and is depreſſed: the tail is armed with a weapon of a ſlender form, ſharp, horny, and ſimple, not bifid at the extremity. Of this genus there is alſo but one known ſpecies.

RAPHIDIA.

This is of the ſize of the ſcorpion fly, and much reſembles it in ſhape: the head is black, ſmooth, horny, narrow in the hinder part, and depreſſed: the thorax is narrow, rounded, and black: the antennæ are ſlender, ſetaceous, white, and compoſed of a vaſt number of articulations: the body is ſlender and oblong; it is brown, but is variegated with tranſverſe lines of white: the wings are thin membranaceous, and reticulated with nerves, and have uſually each an oblong brown ſpot toward the edge; they much reſemble the wings of ſome of the ſmaller libellæ: from the hinder part of the body of the female, there grows a long, ſharp, ſlender, and arcuated weapon.

It is common in July in our meadows, eſpecially about waters.

HEMEROBIUS.

THE palate of the Hemerobius is prominent, and has on each ſide two tentacula: the wings are deflex and tumid.

Hemerobius luteo-viridis, alis aqueis, nervis viridibus.
The yellowiſh-green Hemerobius, with aqueous wings, with green ribs.

The Golden Eye.

This is a very beautiful Inſect: it is about three quarters of an inch in length: it's body is very ſlender, rounded, and of a greeniſh-yellow colour; it's wings are very large; they are tranſparent and colourleſs in the intermediate ſpaces; but the nerves, or ribs, are of a fine green, and are ſo large and numerous, that the whole wing ſeems compoſed of them: the eyes are very large, and of a fine gold yellow: the inſect, when cruſhed, ſtinks intolerably.

The eggs of this fly are affixed by long pedicles to the leaves of our fruit-trees; they ſtand in cluſters erect, and reſemble ſo many pins ſtuck into the leaf by the points. I ſent a leaf with about forty of theſe eggs on it, laſt ſummer, to our Royal Society, where a favourite member declared them the eggs of a Tipula, and will not be convinced of the error, though this beautiful fly has been produced from thoſe very eggs. The worm they immediately hatch into is what Reaumur, from it's voraciouſly feeding on the aphides, calls Leo aphidis: the fly itſelf has been called, by Mouffet, Muſca Chryſops; by Liſter, Tolmerus; by Petiver, Perla minima merdam olens; and, by Goedart, Audax and Intrepidus.

Hemerobius

Hemerobius formicaleonis.
The Hemerobius of the formicaleo.

The Ant-eater Fly.

This is a ſpecies ſo much more univerſally known in the reptile or worm-ſtate, than in it's more perfect form, that it can no way be ſo expreſſively named as from it: when in the perfect or ultimate ſtate, it is a fly with a long ſlender body, of a brown colour, a ſmall head, with large bright eyes, long and ſlender, pale brown legs, and four large reticulated wings; it greatly reſembles the former ſpecies indeed in all things, but that it is more robuſt, and wants it's agreeable colour.

The formicaleo or worm of this fly is about half an inch in length, and more than a third of an inch in breadth; it's body is of an oval figure, and is covered with little rough papillæ, diſpoſed regularly in five longitudinal ſeries: the thorax is ſmall and ſlender; the mouth is furniſhed with a very long pair of forceps, which incline together at the points, and each jaw has alſo three teeth in it; the legs are moderately long and whitiſh; it walks backward, and inhabits a hollow which it forms in looſe ſand, in the manner of a funnel, where it preys on ants, and other Inſects that fall into it, as almoſt every thing muſt do that comes within the verge of it.

It is common in moſt parts of Europe, except England.

Hemerobius alis albis maculis fuſcis ſparſis, antennis variegatis.
The Hemerobius, with white wings ſpotted with brown, and with variegated antennæ.

This is a ſmall ſpecies: it does not exceed an ant in ſize, but it's body is proportionally longer: the wings are large, white, reticulated with brown nerves, and ſpotted with brown: the antennæ are long and ſlender, and are compoſed of alternate, white and brown articulations, ſo that they reſemble a necklace made of beads of two colours: the legs are ſlender and whitiſh; the eyes are blue, with a braſſy tinge, and there is on each ſide of the upper ſurface of the body a ſeries of little brown ſpots.

It is frequent in our hop-grounds in Kent.

The other ſpecies of the Hemerobius are, 1. The black and green Hemerobius, with aqueous wings. 2. The white and ſpotted-winged Hemerobius, with brown antennæ. 3. The black Hemerobius, with a yellow thorax and yellow body. 4. The larger, brown Hemerobius. 5. The larger variegated Hemerobius. 6. The little, brown Hemerobius.

PHRYGANEA.

THE palate of the Phryganea is prominent, and has on each ſide two tentacula: the wings are incumbent; the worm of it lives under water, in a kind of caſe.

Phryganea alis cæruleo-atris, antennis corpore duplo longioribus.
The Phryganea, with bluiſh-black wings, and with the antennæ twice as long as the body.

This is but a ſmall fly; it's body is oblong, and of a duſky brown; it's legs are ſlender, and of a duſky grey, approaching to black; the wings are of a duſky blackiſh colour, with an admixture of bluiſh and greeniſh: the antennæ are twice or three times the length of the body.

It is frequent with us among the reeds and ruſhes, about waters, and flies in vaſt ſwarms in an evening, making a kind of dancing or vibratory motion in the air.

Phryganea alis venoſo-reticulatis, cauda biſeta.
The Phryganea, with venoſo-reticulate wings, and two hairs on the tail.

This is a conſiderably large ſpecies: the body is long, ſlender, and brown, and is terminated at the tail by two long hairs, having the appearance of antennæ: the wings

wings are long, and toward the top narrow; they are white, but full of brown nerves. It is frequent with us in May and June, in places where there are waters near.

Phryganea nigra, alis albidis, ſtriatis, albo maculatis.
The black Phryganea, with whitiſh wings ſtriated, and ſpotted with white.

This is a fly of about half an inch in length; the body is ſlender, rounded, and black: the wings are of a lanceolated figure, and are longer than the body, and obtuſe; they are whitiſh, and are full of brown nerves or veins, which form very beautiful reticulations; and there runs a long brown line between the two exterior nerves of each wing: the antennæ are black, ſlender, and of the length of the body: the thorax is plain, but a little convex in the middle.

It is common with us about waters.

The other ſpecies of Phryganea are, 1. The Phryganea, with teſtaceo-nervoſe wings, and with the antennæ protended forwards. 2. The grey Phryganea, with the exterior wings grey, with a black ſpot on the edge. 3. The greyiſh, teſtaceous-winged Phryganea, with two longitudinal, white lines, and a white ſpot on each. 4. The Phryganea, with deflexo-compreſſed, yellowiſh wings, with a rhomboidal white ſpot at the ſide. 5. The Phryganea, with brown wings with two yellow ſpots on them. 6. The Phryganea, with reticulated wings, and a naked tail, with the edges of the thorax yellow. 7. The Phryganea, with the upper wings clouded, and the antennæ longer than the body. 8. The leaping Phryganea, with the antennæ of the length of the body, and with a green and white ſpot on the wings. 9. The black Phryganea, with the hairs of the tail truncated. 10. The brown Phryganea, without ſpots.

EPHEMERA.

THE Ephemera has two gibbous protuberances on the top of the head, reſembling eyes; the tail is furniſhed with hairs, and the antennæ are ſhort.

Ephemera alis albis reticulatis, cauda biſeta.
The Ephemera, with white, reticulated wings, and two hairs at the tail.

This is a moderately large fly: the body is oblong, ſlender, and whitiſh, except ſome few of the extream articulations, which are brown: the head is ſmall, but there are on it two elevated, lenticular, yellow bodies, having the appearance of eyes, and ſituated above the eyes: the thorax is compreſſed; the tail is terminated by two ſtraight ſlender hairs, of twice the length of the body, and between theſe there are two ſhort and crooked ones: the legs are ſnow-white, and the anterior ones are larger than the others: the wings are erect, reticulated, of a fine white, but with a glow of fleſh colour, as ſeen in ſome lights.

It is frequent with us in the ſummer months about waters.

Ephemera alis albis ſtriatis.
The Ephemera, with white ſtriated wings.

This is a ſmall ſpecies: the body is oblong, ſlender, and browniſh; the tail is obtuſe, and has not thoſe long hairs ſo common to the generality of the Ephemeræ: the wings are large, white, and ſtriated; they have a great many nerves in them, but theſe do not form any reticulations: there are two prominent tubercles on the head, but they are ſmaller than the eyes: the male has the thorax black, and the body pellucid; the female has the body of a reddiſh brown.

It is common about waters in June and July.

Ephemera fuſca cauda biſeta, alis albis.
The brown Ephemera, with white wings, and a biſetous tail.

This is about the ſize of the common gnat: the body is oblong and ſlender, and of a duſky brown; the thorax is black; the legs are long and ſlender; the wings large and

and tranſparent, but of a whitiſh hue: the tubercles above the eyes are very large, and of a deep bluiſh-black: there are two hairs at the tail, which are equal to the body in length.

It is frequent about waters in June.

The other ſpecies of the Ephemera are, 1. The clouded and ſpotted-winged Ephemera, with three hairs at the tail. 2. The thicker-bodied Ephemera, with two hairs at the tail. 3. The white-winged Ephemera, with a black verge, and with two hairs at the tail. 4. The black Ephemera, with the wings white underneath.

LIBELLULA.

THE mouth of the Libellula is furniſhed with jaws: the antennæ are ſhort, and the tail is terminated by a kind of forceps.

The ſpecies of this genus are conſiderably numerous; and as they differ conſiderably in ſize, and in the poſitions of their wings, while ſitting, they may be conveniently divided into three ſets: the firſt conſiſting of thoſe which are of a middle ſize, and which carry their wings erect as they ſit; the ſecond comprehending the ſmall ones, which ſit with their wings erect; and the third the largeſt, which ſit with their wings plane. Of each of theſe diviſions we ſhall deſcribe one, and after this the reſt will be eaſily diſtinguiſhed by their names.

Libellula corpore viridi-cæruleo, alis ſubfuſcis, puncto marginali albo.
The bluiſh-green-bodied Libellula, with browniſh wings, with a white ſpot at the edge.

This is a very elegant and beautiful Inſect: the body is near an inch in length, and of a beautiful green, with a caſt of blue in ſome lights: the head is large; the eyes are remarkably large and prominent; the legs ſlender and black; the wings have a faint tinge of a yellowiſh brown, and have each an oblong, white ſpot near the edge.

It is frequent with us about waters; the male of this ſpecies has a blue body, and even the wings bluiſh.

Libellula corpore incarnato, alis puncto marginali fuſco.
The Libellula, with a red body, and a brown ſpot on the edge of each wing.

This is one of the ſmaller flies of this genus; it's body is nearly as long, indeed, as that of the former, but it is ſlenderer, and is of a bright red colour; the head is large; the eyes are very large and prominent; the legs are ſlender: there are ſome black lines near the ſegments of the belly; the wings are pellucid and browniſh, and have each a deep brown ſpot near the edge.

It is frequent with us about fiſh-ponds.

Libellula alis macula duplici marginali.
The Libellula, with a double marginal ſpot on the wings.

This is one of the largeſt of the Libellulæ: it's body is near an inch and an half in length, and is conſiderably thick; it is largeſt at the two extremities, and ſomewhat ſmaller in the middle: the thorax is thick, of a greyiſh colour, and hairy on the upper ſurface: the wings are yellowiſh toward the baſe, and whitiſh elſewhere; they have each two ſpots, one below the other, of a deep duſky brown; the body is of a ſhining green, and is ſomewhat hairy at the ſides: the tail is furniſhed with two appendages, each ſmaller at the end than in the middle.

It is frequent with us about rivers.

The other ſpecies of the Libellulæ of the firſt diviſion are, 1. The ſmooth, bluiſh-green-bodied Libellula, with yellowiſh, brown wings, with no ſpots at the ſides. 2. The blue-bodied Libellula, with bluiſh-green wings, brown at the extremities, but not ſpotted. 3. The blue-green, ſilky-bodied Libellula, with browniſh-yellow wings, with a black ſpot on each. 4. The greyiſh-bodied Libellula, with duſky brown wings, with a black ſpot on each.

Of the ſecond diviſion, beſide the ſecond deſcribed ſpecies, there are, 1. The green and white-bodied Libellula, with a ſilky body, and a brown, marginal ſpot on each wing. 2. The pale blue-bodied Libellula, with a black ſpot on each wing. 3. The blue and grey-bodied Libellula, with a black marginal ſpot on each wing. 4. The larger yellow and blue-bodied Libellula, with a brown ſpot on each wing.

Of the third diviſion, or largeſt Libellulæ, which ſit with their wings plane, there are, beſide the third deſcribed ſpecies, 1. The broad and ſhort-bodied Libellula, with wings yellowiſh at the baſe, and white elſewhere. 2. The brown-bodied Libellula, with white wings, and a ſimple tail. 3. The Libellula, with the body yellow at it's ſides, and with white wings. 4. The black-bodied Libellula, with the thorax of a bright green, with yellow lines, and with pale wings. 5. The braſſy-green Libellula, with pale wings, and with black legs. 6. The grey Libellula, with yellow wings, and a diphyllous tail. 7. The black-bodied Libellula, with the thorax of a yellowiſh green, variegated with black lines.

TETRAPTERA.

Claſs the Fourth.

LEPIDOPTERA.

Inſects which have four wings, and thoſe all opake, and covered with a fine duſt, which, when examined by the microſcope, is found to be compoſed of regular ſcales, commonly called feathers. The mouth or trunk in this claſs is uſually ſpiral.

THIS claſs comprehends the Butterflies and Moths, the Papiliones and Phalænæ of authors. The ſpecies are very numerous, and, after they are arranged into two genera, according to this diſtinction, the Papilio and Phalæna, they may be divided into ſeveral other ſets, according to certain obvious diſtinctions.

PAPILIO.

THE antennæ of the Papilio are of a clavated form.

Of the ſpecies of this genus ſome have four, others have ſix legs; they may be arranged therefore, according to this diſtinction, into two diviſions: of each of theſe diviſions we ſhall deſcribe three ſpecies, after which the others will be eaſily diſtinguiſhed by their names.

Papilio tetrapus alis angulatis nigris, margine poſtico albido.
The four-legged Butterfly, with black wings, with the hinder edge white.

This is a very large Butterfly: the head is ſmall, the body conſiderably thick and oblong, and both theſe, and the antennæ and legs, are black: the wings are large, and are angulato-dentated; they are black on both ſides, but have a white edge, and each two white ſpots.

It is frequent in our woods: the caterpillar, produced from it's eggs, feeds on the leaves of the birch-tree.

Papilio tetrapus alis angulatis fulvis nigro maculatis, ſecundariis albo notatis.
The four-legged Butterfly, with yellowiſh-brown wings, ſpotted with black, and the ſecondary ones with white.

The body of this ſpecies is oblong, and not very thick; the legs are ſlender, their colour white; the wings are ſinuated, and are of a yellowiſh-brown without, and ſpotted with black, having each, at the leaſt, four diſtinct ſpots of that colour; they are of a greyiſh or aſh colour on the under ſide, and the inner pair have each a white ſpot

on the center: the ſinuations are ſo deep in the wings of this ſpecies, that they appear as it were jagged: the caterpillar feeds on the nettle, the hop-plant, and the gooſeberry-buſh; it is hairy and whitiſh.

Papilio tetrapus alis rotundatis, dentatis, nigro maculatis, fulvis, ſubtus maculis viginta ſeptem argenteis.

The four-legged Papilio, with roundiſh, dentated, yellowiſh wings, with thirty-ſeven ſilvery ſpots underneath.

This is a very elegant ſpecies: it is but a ſmall fly; it's body is oblong and ſlender; it's wings of a duſky yellowiſh colour, ſpotted irregularly on the outſide with black, and having on the inſide thirty ſeven regular and beautiful ſpots, of a ſilvery white, and two ſilvery lines toward the inner edges.

It is very common in many parts of Europe, but not in England.

The other ſpecies of the four-legged Butterflies are, 1. The great, elegant, variegated Papilio, with ſinuated wings. 2. The great, variegated Papilio, with more deeply ſinuated wings. 3. The great, duſky, variegated Papilio, with one of the ſinuations of each wing very deep. 4. The yellowiſh-winged Papilio, with four black ſpots on each of the outer wings. 5. The angulated-winged Papilio, with yellowiſh wings, the primary ones having three black ſpots. 6. The angulated, yellowiſh-winged Papilio, ſpotted with black, and with a blue, variegated eye on each wing. 7. The Papilio, with black, denticulated wings, ſpotted with white, and with an arched ſcarlet band on each ſide. 8. The large Papilio, with yellowiſh, dentated wings, variegated with black and white, and with five little eyes on the under ones. 9. The Papilio, with rounded, dentated, yellowiſh wings, ſpotted with black, and with tranſverſe, ſilvery, and white lines underneath. 10. The large, round, and dentated-winged Papilio, of a yellowiſh colour, ſpotted with black on the upper ſide, and marked with twenty-one ſilvery ſpots underneath. 11. The roundiſh, dentated, yellowiſh-winged Papilio, ſpotted with black, and with nine ſilvery ſpots underneath. 12. The Papilio, with roundiſh, dentated, yellowiſh wings ſpotted with black, with three yellow tranſverſe lines underneath them. 13. The Papilio, with roundiſh, dentated wings, variegated with clouds of black and yellowiſh, and with two eyes on the outer ones. 14. The Papilio, with rounded wings clouded with brown, with an eye and half on the outer ones, and five leſſer eyes on each of the inner. 15. The Papilio, with round, ſmooth, brown wings, the primary ones yellowiſh below, and having each one eye. 16. The Papilio, with roundiſh brown wings, with a reddiſh tranſverſe faſcia, and with ſeven eyes on each ſide. 17. The Papilio, with roundiſh brown wings, with three eyes under the primary ones, and five under the others. 18. The Papilio, with rounded, brown wings, with only a ſingle eye under each of the primary ones, and with white tranſverſe lines under the others. 19. The Papilio, with rounded wings, brown on the upper ſide, and greyiſh underneath, with a white tranſverſe line, and five white eyes on each. 20. The little, beautifully-eyed Papilio. 21. The little Papilio, variegated with blotches of white. 22. The little Papilio, with rounded, elegantly painted wings. 23. The little Papilio, with yellow and black wings. 24. The little Papilio, with wings variegated with blue. 25. The larger, beautifully variegated Papilio, with blue eyes. 26. The great, ſinuated-winged Papilio, with variegations of brown, yellow, and red, on duſky wings. 27. The great, rounded-winged Papilio, with the nerves high and whitiſh. 28. The larger Papilio, with ſlightly ſinuated wings, variegated with blue and red, on a duſky brown. 29. The great, black-winged, variegated Papilio. 30. The great, duſky-winged Papilio, with the outer wings clouded with yellow and blue.

PAPILIONES.

Diviſion the Second.

Thoſe which have ſix legs.

Papilio alis flavo nigroque variegatis, ſecundariis angulo ſubulato maculaque fulva.

The Papilio, with the wings variegated with black and yellow, and with a ſubulated angle, and a yellow ſpot on the ſecondary ones.

THIS is a very large and beautiful Inſect: it's wings are very broad, and the primary or outer ones are of an ovated, obtuſe figure, undivided at the edges, and variegated with black and yellow; there are three large lunar ſpots of yellow near the anterior edge of each; near the poſterior there are eight ſmall ones; and between theſe there are ſeven other ſpots in a regular ſeries; the reſt of the wing is black. The ſecondary or interior wings are denticulated at the edge, and the poſterior angle is carried to a much greater length than the reſt: on the edge of this wing there are ſix lunar yellow ſpots, and a ſeventh near the anus, which is ſurrounded with a beautiful eye, edged with blue; the diſk of this wing is yellow.

The caterpillar of this ſpecies feeds on rue, dill, fennel, pimpernel, and the ſelinum; it is ſmooth, has ſixteen legs, and occaſionally protrudes two yellowiſh horns.

Papilio alis rotundatis integerrimis, ſecundariis viridi nebuloſis, primoribus lunula nigra.

The roundiſh, undivided-winged Papilio, with the ſecondary wings clouded with green, and a black, lunated ſpot on each of the exterior ones.

This is a very ſingular ſpecies: it is of the ſmaller kind, and it's general colour is white: the antennæ are white: the wings alſo are white, but the exterior ones have the verge brown on the outſide, and of a greyiſh yellow underneath, with a brown, lunated ſpot on the middle of each, diſtinguiſhable on each ſide: the interior wings are clouded with green on the under ſurface; on the upper ſide they are white, except toward the baſe, where they are brown: the eyes are of a greeniſh hue, and ſpotted: the male has in the middle of the upper ſurface of the outer wings a yellow ſpot.

It is common in our meadows in Eſſex and Kent.

Papilio alis rotundatis integerrimis cæruleis, ſubtus ocellis numeroſis.

The Papilio, with roundiſh, undivided wings of a blue colour, with numerous eyes underneath.

This is a ſmall ſpecies, but it is extreamly beautiful: the body is ſlender; the legs weak, and the eyes large; the wings are of a beautiful ſky-blue on their upper ſurface, and on the under ſide they have a multitude of black eyes, ſurrounded with circles of red, and a number of other ſmaller, ſimple, black ſpots, and ſeveral yellow ones toward the edges.

It is very common with us on heaths, and about the hedges, on dry, hilly paſtures.

The other ſpecies of the ſix-legged butterflies are, 1. The Papilio, with the under wings angulato-dentated, and variegated with white and yellow on the under ſide. 2. The Papilio, with angulated, yellow wings, with a ferruginous ſpot on each. 3. The Papilio, with rounded, white wings, with black nerves. 4. The Papilio, with rounded, white wings, with green nerves. 5. The larger Papilio, with rounded, white wings, the primary ones having two ſpots and black tips. 6. The ſmaller Papilio, with rounded, white wings, the primary ones bimaculated, and the tips black. 7. The Papilio, with rounded, white wings, without ſpots. 8. The Papilio, with rounded, undivided, white wings, with four eyes on the upper ſurface, and ſeven

ſeven on the under ſurface of the ſecondary ones. 9. The Papilio, with rounded, undivided, blackiſh-brown wings, with numerous eyes underneath. 10. The Papilio, with rounded wings, brown on the upper ſurface, and with forty-two black ſpots underneath. 11. The Papilio, with rounded, undivided wings, greeniſh, and not ſpotted underneath. 12. The Papilio, with rounded, browniſh-yellow wings, ſpotted on both ſides with black. 13. The Papilio, with rounded, brown wings, ſpotted on the under ſurface with white. 14. The little brown Papilio, with broad and elegantly variegated wings. 15. The little ſhort-bodied elegantly ſpotted Papilio. 16. The larger, plain, duſky Papilio. 17. The great variegated Papilio, with ſinuated wings. 18. The great variegated Papilio, with undivided wings. 19. The oriental velvety Papilio, with ſhort antennæ. 20. The oriental, bright, variegated Papilio, with ſinuated wings. 21. The greater American, black and yellow Papilio. 22. The great American, brown Papilio, variegated with yellow and reddiſh. 23. The American Papilio, with elegant variegations, and the wings deeply ſinuated.

PHALÆNA.

THE antennæ of the Phalæna are attenuated to the point, not clavated.

The ſpecies of this genus are very numerous; ſome of them have the antennæ of a priſmatic form; ſome have them pectinated, or made in faſhion of a comb; and, of theſe laſt, ſome have no tongue, and others have a ſpiral-one; ſome have the antennæ pectinated, and ſit with the wings flat or plane; others ſit with the wings plane and patent, and have ſimple antennæ, and a ſpiral tongue; ſome have the antennæ ſimple, and the tongue ſpiral, but do not ſit with the wings plane; and, of theſe, ſome have the forehead prominent, others not; others, again, have the antennæ ſimple, and have no tongue.

After deſcribing three ſpecies, we ſhall enumerate the others under theſe ſeveral diſtinctions, as the heads of ſo many natural diviſions.

Phalæna priſmicornis, ſpirilinguis, fuſca, alis inferioribus abdomineque faſciis tranſverſis rubris.

The priſmatic horned, ſpiral-tongued Phalæna, with the lower wings and the body ſtreaked with red.

This is a very large and very beautiful ſpecies: the body is elegantly variegated with black and red, and is conſiderably thick; the wings are very long, but they are narrow, caudated, and acute; they are brown on the upper ſide, and are elegantly variegated with tranſverſe ſtreaks of red underneath: the caterpillar of this ſpecies feeds on the privet, the ſyringe, the aſh, and the willow; it is very large and beautiful; it's colour is a bright green, and it has a large horn.

We find the moth in our gardens.

Phalæna pectinicornis, elinguis, alis cinereo flavoque rufis, margine laceris.

The pectinicornate Phalæna, without a tongue, with brown and grey wings, lacerated at the edges.

This is alſo a very beautiful ſpecies: the body is large; the legs are variegated with annular ſpots of white: the wings are lacerated, and ſeem as if they were eroded in the hinder part; they are variegated with brown and reddiſh on the upper ſide, and have a white obliquely tranſverſe line on them, with one ſpot of white at the baſe, and another near the middle: the wings are clouded on their under part: the antennæ are but ſlightly pectinated, and are white toward the baſe, on the anterior ſide.

It is not uncommon in our woods and hedges: the caterpillar feeds on the ground-ivy, and ſeveral other plants.

Phalæna, ſeticornis, alis patentibus albis, pone faſcia marginali, inferioribus nigris, punctis quatuor albis.

The ſeticornate Phalæna, with white patent wings, with a marginal faſcia behind, and with four white ſpots on the faſcia, which on the inferior ones is black.

This is a very ſingular ſpecies: it is of the ſize of a ſmall fly: the antennæ are ſimple, ſlender, and pointed at the extremities, and are of about half the length of the body, and the ſeveral articulations they are compoſed of have each a white triangular ſpot on one ſide, ſo that they ſeem, when ſlightly viewed, to have annular marks of white: the upper wings are white; they have a brown edge behind, and a ſingle ſpot in the middle, where they are bluiſh, and a flexuous line of bluiſh-green; on the under ſide they are grey, and have a brown ſpot in the middle: the under wings are white, but they have a black tranſverſe line toward the hinder edge, and, over that, a bluiſh-green flexuous line, and four white ſpots, and in the middle they have a black ſpot; they are whiter on the under ſurface than on the upper. It's caterpillar feeds on the common duck-weed, and makes itſelf a caſe of a convoluted leaf of it, in which it paſſes the chryſalis ſtate on the ſurface of the water.

The fly is common with us about ponds.

The other ſpecies of Phalæna, enumerated under the already mentioned diviſions, are, 1. Of thoſe which have the antennæ of a priſmatic figure there are, 1. The Phalæna, with white antennæ, and with greyiſh, plane, eroded wings, and a ſpiral tongue. 2. The ſpiral-tongued Phalæna, with the wings variegated with green, purple, and yellowiſh. 3. The pointed-horned Phalæna, without a tongue, with depreſſed clouded wings, and with the body variegated with white rings. 4. The ſharp-horned Phalæna, without a tongue, with white lanceolated wings, with black veins. 5. The ſharp-horned, ſpiral-tongued Phalæna, with the upper wings bluiſh, with ſix red ſpots on them, and with the under ones red. 6. The ſharp-horned, ſpiral tongued Phalæna, with pale, deflex, eroded wings, with a brown triangular ſpot ſurrounding a red one, and with the thorax gibboſe.

2. Of thoſe which have pectinated wings, and have no tongue, there are, 1. The Phalæna, with the wings green on the upper ſide, with a bluiſh-green, dentated, and ſinuated tranſverſe lines on them. 2. The Phalæna with brown ſublinear wings. 3. The Phalæna, with plain, rounded, clouded, yellowiſh wings, the under ones having a white longitudinal line on them. 4. The Phalæna, with white, ſemitranſparent, deflex wings, with duſky nerves. 5. The Phalæna, with deflex wings, the upper ones brown, with white undulated lines; the lower ones purple, with ſix black ſpots on each. 6. The Phalæna, with black deflex wings, the upper ones variegated with undulated lines of yellow; the under ones red, with black ſpots. 7. The Phalæna, with white deflex wings, and with the legs and the antennæ black. 8. The Phalæna, with deflex white wings, with black ſpots on them, and with five ſeries of ſpots on the body. 9. The Phalæna, with pale deflex wings, with a tranſverſe line of a deep colour on them. 10. The Phalæna, with deflex grey wings, with two white tranſverſe lines on them; the lower one prominent. 11. The Phalæna, with browniſh grey wings, with blue lines, and blue lunar ſpots, and with a black dot underneath: the caterpillar of this fly feeds on graſs, and is very miſchievous and deſtructive. 12. The Phalæna, with plane wings, the upper ones marked each with a white ſpot at the angle of the anus, and the female having ſcarce any viſible wings. 13. The Phalæna, with deflex, grey, and undulated wings, with ſome obſcure tranſverſe lines, and with the head carried between the protended fore-legs. 14. The grey hairy Phalæna, with obſcure blackiſh lines, and a double pale ſpot on the outer wings. 15. The Phalæna, with grey wings, with two obliquely tranſverſe white lines on the exterior ones. 16. The Phalæna, with bluiſh-green wings, with two obliquely tranſverſe yellow lines on the outer ones. 17. The moth produced from the ſilk-worm. 18. The Phalæna, with wings variegated with grey, yellow, and reddiſh, and lacerated at the edges. 19. The Phalæna, with yellowiſh, angulato-dentated wings, with two brown lines on them, and with a yellow thorax. 20. The Phalæna, with plane greyiſh wings, with an eye and a tranſverſe line of brown on each. 21. The Phalæna, with grey deflex wings, with a double yellowiſh-white ſpot on each.

3. Of thoſe which have pectinated antennæ and a ſpiral tongue there are, 1. The Phalæna, with plane yellowiſh wings, with a red ſpot in them. 2. The Phalæna, with very elegant, gloſſy, bluiſh-green wings for the upper pair, and with the lower pair brown. 3. The Phalæna, with plain, rounded wings, brown on the upper part, but with ſome white at the edge. 4. The Phalæna, with plane, angulated, yellow wings, clouded with brown. 5. The Phalæna, with plane whitiſh wings, and with tentacula of the length of the antennæ. 6. The Phalæna, with deep brown plane wings, variegated with a bright red and white.

4. Of thoſe which have pectinated antennæ, and the wings plain as they ſit, there are, 1. The Phalæna, with a ſpiral tongue and patent dentated wings, with two brown tranſverſe lines on them. 2. The Phalæna, with a ſpiral tongue and grey wings, with two brown faſciæ on them. 3. The Phalæna, with a ſpiral tongue and ſubpectinate horns, with the wings variegated with tranſverſe ſtreaks of brown and white. 4. The ſpiral-tongued Phalæna, with patent, whitiſh wings, with four tranſverſe marginal lines.

5. Of thoſe with ſimple antennæ and a ſpiral tongue, and ſitting with plain patent wings, there are, 1. The Phalæna, with the wings clouded with brown, and with the anus yellow. 2. The Phalæna, with wings brown on the upper ſide, but yellow on the hinder part, and underneath. 3. The Phalæna, with hoary wings, with two or three tranſverſe ſtreaks, and a black ſpot. 4. The Phalæna, with patent white wings, with a number of irregular black ſpots on them. 5. The Phalæna, with ſnow-white, rounded, patent wings, with ſome very ſmall dots of grey on them. 6. The Phalæna, with patent white wings, all of them nebuloſo-reticulated and ſmooth. 7. The Phalæna, with white patent wings, with a marginal faſcia behind; the lower ones black, with four white ſpots. 8. The Phalæna, with patent white wings, the lower ones nebuloſo-reticulate and ſmooth. 9. The Phalæna, with grey patent wings, with brown linear faſciæ and a black ſpot. 10. The Phalæna, with painted, bright, white wings, undulated with a duſky brown. 11. The Phalæna, with patent wings, with three grey faſciæ, and with a ſingle black dot. 12. The Phalæna, with patent green wings. 13. The Phalæna, with patent, yellowiſh-white wings, with black linear faſciæ. 14. The Phalæna, with patent wings of a whitiſh colour, with a broad, nebulous, tranſverſe line, with a mark like a figure of eight within it. 15. The Phalæna, with patent white wings, with the edge every-where brown. 16. The Phalæna, with patent wings of a black clouded colour, with two white tranſverſe lines. 17. The Phalæna, with patent wings, with two white, and two black, tranſverſe lines on them. 18. The Phalæna, with patent wings of a grey, ſpotted with a darker colour. 19. The Phalæna, with black wings, white at the extremities. 20. The ſpiral-tongued, totally white Phalæna. 21. The Phalæna, with patent wings, with two white, and two brown, tranſverſe lines placed alternately. 22. The patent-winged Phalæna, which is produced from the erect caterpillar. 23. The Phalæna, with very patent, linear, ramoſe wings, the exterior ones divided into two parts, the anterior into three. 24. The Phalæna, with deeply divided brown wings tipped with yellow.

6. Of thoſe which have very ſimple wings, a ſpiral tongue, and have no prominence on the forehead, there are, 1. The little Phalæna, with the upper wings brown, with a red line, and two red ſpots, and with the under wings entirely red. 2. The Phalæna, with incumbent wings, the exterior ones grey and clouded; the lower ones yellow, with a black ſpot near the edge. 3. The Phalæna, with incumbent grey wings, clouded with white and yellowiſh-brown. 4. The Phalæna, with deflex, ferrugineous, grey wings, with a white and a yellow ſpot on them, and with a barbated anus. 5. The Phalæna, with deflex wings, the exterior ones brown, with a figure of greek λ on them. 6. The Phalæna, with depreſſed grey wings, with a brown ſpot and with a figure of the letter C under it; the lower ones white. 7. The Phalæna, with deflex nebulous wings, with one or two gold-yellow tranſverſe lines on them. 8. The Phalæna, with depreſſed wings, with a ferrugineous ſpot on each ſide, with gibbous ſhoulders, and with a bunch upon the middle of the back. 9. The Phalæna, with depreſſed brown wings; the upper ones with two pale ſpots on them, and with the apex and the baſe of the thorax gibbous. 10. The Phalæna, with deflex, ferrugineous, grey wings, with two grey ſpots on them, and with the apex, and the baſe of the thorax gibbous. 11. The Phalæna, with deflex hoary wings, and with ſome black marks, like the greek ψ, upon them. 12. The Phalæna, with yellow, deflex

wings,

wings, with two oblique, ferrugineous lines on them. 13. The Phalæna, with deflex, black wings, with the body of a yellowiſh-brown. 14. The Phalæna, with incumbent, yellow wings, with two grey obliquely tranſverſe lines, the under one interrupted. 15. The Phalæna, with depreſſed, yellowiſh-brown wings, with a triangular ſilvery ſpot at the edge. 16. The Phalæna, with deflex, whitiſh wings, with a double tranſverſe line of a duſky grey on the upper ones. 17. The Phalæna, with deflex, pale grey wings, with a duſkier line on them. 18. The Phalæna, with deflex wings, brown on the upper ſide, with a white line near the edge.

7. Of thoſe with ſimple antennæ, a ſpiral tongue, and a prominence on the forehead, there are, 1. The Phalæna, with plane, incumbent wings, and with two crooked corniculæ criſtated at the baſe. 2. The Phalæna, with ſpotted wings, and with two ſubulated, crooked corniculæ, black on the upper ſide, and white underneath. 3. The Phalæna, with two ſubulated, crooked corniculæ, and with incumbent wings clouded with black and grey. 4. The Phalæna, with the upper wings terminated behind by a crooked claw. 5. The Phalæna, with the upper wings white, ſpotted with black, and the lower wings brown. 6. The noſed, black Phalæna, with a white head, and with the wings white in the hinder part. 7. The grey Phalæna, with a white ſpot on each ſide the thorax. 8. The hoary, noſed Phalæna, with a grey head, and a black ſpot on the middle of the wings. 9. The noſed, green Phalæna. Moſt of the preceding ones are ſmall, and proceed from the worms which eat cloaths; the laſt, indeed, feeds in the caterpillar ſtate on the willow. 10. The Phalæna, with grey incumbent wings, and with the thicker edge of the lower ones whitiſh. 11. The noſed, black Phalæna, with two white, teſſelated, tranſverſe lines on the wings. 12. The noſed, grey Phalæna, with clouds of black on the wings. 13. The noſed, black Phalæna, with four tranſverſe, ſilvery lines. 14. The noſed, black Phalæna, with three tranſverſe, ſilvery lines. 15. The brown, noſed Phalæna, with an obliquely tranſverſe line of gold-yellow. 16. The noſed, black Phalæna, with the exterior wings of a gilded yellow, and with the antennæ longer than the body. 17. The noſed, white Phalæna, with two tranſverſe lines of a ſilvery-brown on the exterior wings, and with ſeveral irregular undulations behind. 18. The noſed, yellow Phalæna, with four tranſverſe lines of a ſilvery-brown on the wings. 19. The noſed, grey Phalæna, with the wings white in the anterior part, and with a white linear faſcia behind. 20. The Phalæna, with black wings, with a white tranſverſe line on them. 21. The noſed, whitiſh Phalæna, with longitudinal white ſtriæ on the wings, each terminated by a black ſpot. 22. The noſed, whitiſh Phalæna, with a longitudinal ſilvery line on the wings, ramoſe in the hinder part. 23. The noſed, grey Phalæna, with a white tranſverſe line on the back. 24. The noſed, brown Phalæna, with a black ſpot on each ſide. 25. The ſomewhat noſed, clouded, brown Phalæna, with a doubly triangular white ſpot on the back. 26. The noſed, grey Phalæna, with a black ſpot on each ſide. 27. The noſed, black Phalæna, with yellow lines on the wings, with undulated white edges. 28. The noſed-brown Phalæna, undulated with white, and with the under pair of wings brown, with white edges. 29. The deep brown, noſed Phalæna, with variegations of a bright red.

8. Of thoſe which have extreamly ſimple antennæ, and no tongue, there are only ten known ſpecies: theſe are, 1. The Phalæna, with a bicornate head, with white wings, with black tranſverſe lines near the edge. 2. The Phalæna, with a bicornate head, with brown wings, with tranſverſe red ſtreaks. 3. The Phalæna, with a bicornate head, with the thorax yellow, and with the wings plano-incumbent, and of a greyiſh-brown. 4. The Phalæna, with very ſhort antennæ of a reddiſh brown, and with a yellow thorax and deflex wings. 5. The Phalæna, with ſilvery wings, with five tranſverſe lines on them. 6. The Phalæna, with incumbent wings; the upper ones with a yellow edge, and the lower ones all over yellow. 7. The Phalæna, with incumbent, linear, hairy wings. 8. The Phalæna, with yellow wings, with extreamly ſmall and numerous black ſpots on them. 9. The Phalæna, with greyiſh-brown wings, the lower ones whitiſh; the female having ſcarce any viſible wings at all. 10. The whitiſh-green Phalæna, with plane wings.

TETRAP-

TETRAPTERA.

Claſs the Fifth.

HYMENOPTERA.

Inſects which have four wings, and thoſe all entirely membranaceous.

TENTHREDO.

THE female of the Tenthredo has a ſerrated point, or weapon, at the tail: the worm, produced of the egg, has ſeveral feet.

The ſpecies of this genus have been generally confounded with the Ichneumons.

Tenthredo antennis clavatis, atra; ſegmentis abdominalibus partim ferrugineis.

The black Tenthredo, with clavated antennæ, and with ſome of the ſegments of the body ferrugineous.

This is a large fly: it very nearly equals the hornet in ſize: it's body is black, except that the third, fourth, and fifth joints or ſegments of it are ferrugineous, it is hairy: the wings are very thin and tranſparent; the legs black, but the feet yellow within: the antennæ are clavated and yellow, except the loweſt joint, which is black: there are ſome ferrugineous black nerves in the wings, and they have a browniſh tinge toward the outer edge: the worm feeds on the willow, poplar, and birch, and is ſmooth and green, and has a black liſt down the back, edged with yellow: it has twenty-eight legs, and often rolls itſelf up in a ſpiral form.

Tenthredo atra antennis undecim-nodiis, alis nigro alboque maculatis.

The black Tenthredo, with eleven joints in the antennæ, and wings ſpotted with black and white.

This is of the ſize of a common houſe-fly: it's body, thorax, head, and legs are all black: the antennæ are ſlender; the wings have ſeveral veins in them; the upper ones have two black ſpots, of which that neareſt the thorax is lunated, the other round, and near it, toward the top of the wing, there is a white one.

We meet with this ſpecies frequently in the woods about Harrow on the Hill, and in many parts of the North.

Tenthredo antennis duodecim-nodiis, nigris, abdomine ſubtus ferrugineo, pedibus flavis.

The yellow-legged Tenthredo, with the body ferrugineous below, and the antennæ compoſed of twelve joints.

This is a ſmall ſpecies, ſcarce exceeding a flea in ſize: the antennæ are ſlender and black; the head and thorax are alſo black and gibbous: the body is of an oval figure, and is carinated, ferrugineous beneath, and black towards the anus; the legs are ferrugineous, and the wings are larger than the body, and are whitiſh, and have nothing of the ſpots common on many others of this genus.

This ſpecies is produced in the excreſcence of the common Dog-roſe, called the Bedeguar, and ſpunge or gall of the roſe in the ſhops.

The other ſpecies of the Tenthredo are, 1. The black Tenthredo, with clavated antennæ, and an oval body, and ferrugineous wings. 2. The black Tenthredo, with ferrugineous legs, and with a cylindric cornicle at the anus. 3. The black Tenthredo, with ferrugineous legs, and with the apex of the anus depreſſed and acute. 4. The Tenthredo, with the antennæ formed of ſeven joints, with a yellow body, with the head and the middle of the thorax black, and with an oval ſpot on the wings. 5. The

Tenthredo, with ſeven joints in the antennæ, and with the body yellow, but black behind. 6. The Tenthredo, with ſeven joints in the antennæ, with a yellow body, and with a longitudinal black ſtreak in the wings. 7. The yellow Tenthredo, with a ſingle ferrugineous ſpot in each wing. 8. The black Tenthredo, with yellow legs, and with yellow marks on the breaſt. 9. The black Tenthredo, with ſhort antennæ. 10. The Tenthredo of the willow, the worm of which is of a bluiſh-green, and has the breaſt and the tail yellow. 11. The Tenthredo of the poplar. 12. The black Tenthedro, with ſeven joints in the antennæ, and with the edges of moſt of the ſegments of the body yellow. 13. The Tenthedro, with ſeven joints in the antennæ, and with the back black, with pale, tranſverſe, and arched lines on it. 14. The Tenthredo, with antennæ with eighteen joints, with ferrugineous legs, the hinder pair variegated with black and white. 15. The Tenthedro, with black antennæ, conſiſting of twelve joints, with the body ferrugineous below, the legs yellow, and the wings unſpotted. 16. The Tenthredo, with a braſſy-green thorax, and a gold-yellow body. 17. The braſſy-blue Tenthredo, with pale coloured legs, and unſpotted wings. 18. The black Tenthredo, with the back of the thorax greeniſh, and with legs ſerving it for hopping. 19. The Tenthredo, with a ſhining green thorax, and a brown body, with a pale belt at the baſe, and with yellow legs. 20. The Tenthredo, with a black body, and yellow legs. 21. The black Tenthredo, with white legs. 22. The Tenthredo of the willow-leaf gall. 23. The Tenthredo of the gall of the beech-leaf. 24. The oak gall, or common gall Tenthredo. 25. The oak-leaf gall Tenthredo. 26. The Tenthredo of the imbricated gall of the oak. 27. The Tenthredo of the gall of the ground-ivy. 28. The Tenthredo of the gall of the hairy hawkweed.

The Tenthredines of the roſe, the willow, the oak, the ground-ivy, and ſome others, have been diſtinguiſhed from the others, under the name of Cynips, but they are properly of this genus.

ICHNEUMON.

THE weapon at the anus of the Ichneumon is triple.

Ichneumon ater pedibus rufis.
The black Ichneumon, with red legs.

The common Ichneumon Fly.

This is a moderately large ſpecies: it's body is long, ſlender, and black; it's head alſo, and the thorax, the antennæ, and even the weapon at the tail, are all black: the legs are of a reddiſh colour, and are long and ſlender; the wings are pellucid, and have a black ſpot near the edge: the weapon at the tail is longer than the body, and is very ſlender; it conſiſts of three hairs, as it were; the two outer ones black, and the middle one red.

It is common with us about dry banks and in gardens. Ray calls it Veſpa Ichneumon tota nigra præter pedes qui crocei ſunt; and, in another place, Muſca tripilis corpore tenui et prælongo ſetis a cauda longiſſimis.

Ichneumon totus luteus.
The all-yellow Ichneumon.

The yellow Ichneumon Fly.

This is a large ſpecies: the head, body, legs, and indeed every part, are of the ſame uniform yellow: the wings are large and membranaceous, but they have a ſpot of yellow near the edge: the body is of a crooked or arcuated figure, and is narrow at the baſe: the antennæ are equal to the body in length, and are compoſed of a great number of articulations; the eyes are large, and are black.

It is frequent with us about dry banks. Ray calls it Veſpa Ichneumon tota fulva alis amplis.

Ichneumon

Ichneumon tibiis poſticis clavatis.
The Ichneumon, with the hinder legs clavated.

This is a moderately large ſpecies: the head, thorax, legs, and antennæ are all black; the weapon in the tail of the female is long, ſlender, black, and compoſed of three hairs; the two outer two black, the middle one red; the whole is longer than the body, and has a white tip at the extremity: the body is of a clavated figure; it is affixed to the thorax by a ſlender thread; it is black all over, except at the baſe, where it is reddiſh: the hinder legs are ſmall at the top, but the third joint is very robuſt and large.

It is common with us on heaths. Mouffet calls it Muſca tripilis.

The other ſpecies of the Ichneumon are, 1. The Cotton-fly, or the Ichneumon which makes a web of cottony matter, of the ſize of a pigeon's egg, common on graſs in autumn. 2. The Ichneumon, whoſe worm feeds on the fleſh of the caterpillar of the cabbage, living within it's body. 3. The Ichneumon, whoſe worm feeds on the aphides of the ſerratula. 4. The hairy, bluiſh-black Ichneumon. 5. The black Ichneumon, with the thighs teſtaceous, and the antennæ white in the middle. 6. The black Ichneumon, with ferrugineous legs, and antennæ all over of the ſame colour. 7. The black Ichneumon, with the legs teſtaceous, and with the antennæ pale on the under part. 8. The black Ichneumon, with the hinder legs ferrugineous, and the others black, and with the antennæ white in the middle. 9. The black Ichneumon, with reddiſh legs. 10. The black Ichneumon, with the legs and the top of the thorax white. 11. The black Ichneumon, with the legs reddiſh, and the forehead pale. 12. The black Ichneumon, with reddiſh legs, the top of the hinder ones only black, and the antennæ white in the middle. 13. The black Ichneumon, with ferrugineous legs, except the hinder pair, which are variegated with black and white. 14. The black Ichneumon, with the forehead white, and with white ſpots on the body, and with the legs red. 15. The black Ichneumon, with black legs, and with four white ſpots on each ſide the body. 16. The black Ichneumon, with the body and the legs ferrugineous, and the middle of the antennæ white. 17. The black Ichneumon, with the body and the legs ferrugineous, and with a white ring on the antennæ. 18. The yellow Ichneumon, with the extremity of the body black. 19. The black Ichneumon, with the body ferrugineous, and black at the extremity, and with a white circle on the antennæ. 20. The black Ichneumon, with coal-black antennæ, and with the body ferrugineous, but black at the extremity. 21. The black Ichneumon, with the body entirely ferrugineous. 22. The ferrugineous Ichneumon, with the extremity of the body and the lower part of the thorax black. 23. The black Ichneumon, with the body yellow in the anterior part, and with the joints of the legs black. 24. The black Ichneumon, with yellow legs, and the body yellow on the anterior part. 25. The black Ichneumon, with the anterior ſegments of the body ferrugineous, and the top of the thorax yellow. 26. The black Ichneumon, with brown wings, and with the anterior ſegments of the body reddiſh. 27. The Ichneumon, with the body ferrugineous before, and black behind, and with four white ſpots on it. 28. The Ichneumon, with the anterior part of the body ferrugineous, the hinder part black, with five yellow ſpots on it, and with the antennæ whitiſh on one ſide. 29. The Ichneumon, with the anterior part of the body ferrugineous, the poſterior part black, and without ſpots, and with the antennæ marked with a white circle. 30. The Ichneumon, with the anterior part of the body ferrugineous, and the hinder part black, and the inciſures yellowiſh, with a white circle on the antennæ. 31. The black Ichneumon, with the middle of the body and the anterior legs reddiſh, the lower part of the poſterior ones white. 32. The black Ichneumon, with the legs, and the ſecond and third ſegments of the body yellow. 33. The black Ichneumon, with white wings, with a double tranſverſe line of black on each, the hinder one the broader. 34. The long and ſlender-bodied Ichneumon, with the antennæ of the length of the body, with clavated legs, and with ſetaceous tentacula. 35. The braſſy-green, elegant Ichneumon, with black, ſpiral antennæ. 36. The great, black Ichneumon, with the extremity of the body red.

APIS.

THE weapon in the tail of the Apis is ſimple, and capable of inflicting a wound.

This genus comprehends the bee, the humble-bee, the waſp, and hornet kind.

Apis thorace nigro, antice rufo immaculato, abdominis inciſuris puncto nigro duplici contiguo notatis.
The Apis, with a black thorax, and double black ſpots on the ſegments of the body.

The Hornet.

This is by much the largeſt and the moſt miſchievous of this genus; indeed, of all the Inſects of this part of the world: the head is reddiſh, but the upper lip yellow; the thorax is reddiſh in the anterior part, otherwiſe all over black: the ſegments or joints of the body are outwardly yellow, inwardly black: there are two black ſpots on each of the middle ſegments, which coaleſce at their baſes with the inner blackneſs of the ſegments themſelves: the legs are greyiſh.

It is too common in the woods and about houſes, in ſome parts of England: it's ſting is attended with great pain and inflammation, ſometimes with danger. There is a harmleſs fly, with only two wings, which greatly reſembles this Inſect; but the characters given in this deſcription convey the eſſential differences, beſide thoſe in the number of the wings, and the want of a ſting. All the writers on Inſects have deſcribed this under the name of Crabro, or Crabro vulgaris.

Apis nitida thorace viridi-cæruleo, abdomine inaurato.
The beautiful gold-yellow Apis, with a blue-green thorax.

The green and yellow Bee.

This ſpecies is of the number of thoſe diſtinctively called Bees, and is vaſtly the moſt beautiful of the whole genus: it is of the ſhape of the common bee, but ſmaller: the head and thorax are of a very bright and beautiful blue, with a ſmall admixture of green in it: the body is of a bright yellow, ſo gloſſy, that it appears gilded and burniſhed; the wings are brown; the thorax, and the laſt ſegment but one of the body, are dentated behind: the antennæ are black, and conſiſt of twelve articulations: it ſtings in the manner of the common bee.

It is found about old ſtone walls that have crevices in them; ſometimes about clayey ditch banks.

Apis nigra abdomine faſciis quatuor undique flavis notato.
The black Apis, with four yellow circles on the body.

The black and yellow Waſp.

This is one of the ſpecies properly of the waſp kind; it is ſomewhat ſmaller than the common waſp: the head is black, as is alſo the thorax; the antennæ are alſo black, and are broader in the middle than elſewhere: there are two yellow ſpots on the hinder part of the thorax: the firſt joint of the body is black, with a yellow ſpot on each ſide; the four ſucceeding joints of it are alſo black, but they have each a yellow edge, forming ſo many yellow faſciæ or belts quite round the body: the laſt ſegment of the body is entirely black; the legs are black, but variegated with a paler colour.

It is very frequent about the old ſtone walls in Northamptonſhire, and ſome other parts of England; but about London I have not ſeen it: it ſtings like the common waſp, and the wound is equally painful and inflamed.

Apis hirſuta nigra, thoracis cingulo flavo, ano albo.
The black, hairy Apis, with the cingulum of the thorax yellow, and the anus white.

The great Humble-bee.

This ſpecies is of the number of thoſe commonly diſtinguiſhed by the name of the Humble-bee, and is the largeſt of them all: it is near three quarters of an inch in length, and a third of an inch in breadth: it's body is all over black, and very hairy, only that the hinder extremity about the anus is white, and on the anterior part there is a little yellowneſs: the thorax is black, but has a ſlight line of yellow alſo on it's anterior part; and the legs are black.

It is very common about our hedges, and in gardens and orchards; it is not apt to ſting unprovoked, but, when it does, the wound is very painful. All the writers on Inſects have deſcribed it under the name of Bombylius, and Bombylius vulgaris.

The other ſpecies of the Apis are very numerous: having thus deſcribed one of each of the common diſtinctions, the reſt ſhall be enumerated under the ſame diviſions, and will be eaſily diſtinguiſhed by their names, without farther deſcriptions.

1. Of thoſe called *Waſps* there are, 1. The common Waſp. 2. The black Waſp, with five of the ſegments of the body yellow, and the firſt very remote. 3. The black Waſp, with the baſe of the thorax yellow, and with four of the ſegments of the body yellow, the firſt very remote. 4. The black Waſp, with the baſe and the apex of the thorax yellowiſh, and with four yellow faſciæ on the body, the third of them interrupted. 5. The black Waſp, with four yellow faſciæ on the body, the three firſt interrupted. 6. The ſmooth, black Waſp, with three yellow faſciæ on the body, the firſt of them very remote. 7. The ſmooth, black Waſp, with three yellow faſciæ on the body, the third very remote, and the firſt joint of the body infundibuliform. 8. The ſmooth, black Waſp, with yellow legs, and with three yellow faſciæ on the body, the firſt interrupted. 9. The Waſp, with the black thorax with yellow lines, and with the ſegments of the body black and yellow at the edges; the firſt and ſecond ferrugineous. 10. The Waſp, with the legs and the jaws yellow, black at the extremity, and with the inciſures of the body ſmooth and black at the edges. 11. The black Waſp, with the jaws and the legs yellow. 12. The black Waſp, with the legs and the front of the head yellow. 13. The black Waſp, with the firſt joint of the body infundibuliform, the ſecond very large and campanulated.

2. Of thoſe called *Bees* there are, 1. The common Bee, which is kept in hives for the ſake of the wax and honey. 2. The ſmooth Bee, of a braſſy black colour without ſpots, and with the legs ferrugineous. 3. The greyiſh, ſomewhat hairy Bee, with a conic body, and with the edge of the ſegments of a yellowiſh-white. 4. The greyiſh, hairy Bee, with a yellow head, and with a black body, with the ſegments marked with white. 5. The hairy Bee, with the head and thorax black, the body reddiſh, and the forehead bicornate. 6. The hairy Bee, with a black head and red body, and with a white forehead. 7. The black Bee, with four white lines on the body, and with a browniſh-yellow, woolly matter underneath. 8. The black Bee, with ferrugineous legs, and with four yellow ſpots on each ſide of the body. 9. The little coal-black Bee, with a red tail.

3. Of thoſe called *Humble-bees* there are the following, 1. The black, hairy Humble-bee, without any variegation. 2. The black, hairy Humble-bee, with a brown tail. 3. The black, hairy Humble-bee, with a yellowiſh, tawny tail. 4. The hairy Humble-bee, with the thorax black, and the body yellow. 5. The hairy, tawny Humble-bee, with the body yellow. 6. The hairy, tawny Bee, with the body black in the middle, and white at the extremity. 7. The long-haired, reddiſh Humble-bee, with yellowiſh variegations. 8. The ſmaller, black Humble-bee, with the extremity of the body of an orange colour. 9. The large Humble-bee all over black, except for a long yellow down upon part of the firſt pair of legs. 10. The great, black Humble-bee, with two tranſverſe, yellow lines, one on the thorax, the other on the middle of the body. 11. The very large, black Humble-bee, with a duſky yellow tail, and a line of the ſame colour on the lower part of the body. 12. The large, black Humble-bee, with a reddiſh tail, and with a greeniſh-yellow faſcia on the ſummit of the thorax. 13. The very hairy, great, whitiſh Humble-bee, with a reddiſh tail. 14. The black Humble-bee, with a reddiſh tail, and two

yellow faſciæ on the bedy. 15. The great, black Humble-bee, with a white tail, and with three tranſverſe lines of yellow on the body. 16. The ſhining, black Humble-bee, with a white tail, and the ſides of the body toward the hinder part white. 17. The great, black Humble-bee, with the whole body ſmooth. 18. The great, black Humble-bee, with a white tail, and with two tranſverſe lines of yellow on the body. 19. The great, black Humble-bee, with a tawny faſcia round the body, and another on the thorax. 20. The black Humble-bee, with two faſciæ on the under part of the body; the one broad and yellowiſh, the other narrow and white.

FORMICA.

THERE is in the Formica an erect ſquamma or ſcaly body, placed between the thorax and the body: the mules, as they are called, or the ants of no ſex, have no wings.

Formica maxima.
The largeſt Formica.

The great Ant, or Horſe-ant.

This is the largeſt of all the ant kind, and is nearly of twice the ſize of the common ſpecies: the head is black; the thorax is of a duſky, ferrugineous colour in general, but it becomes black toward the hinder part, and it's extremity is white: the legs are ferrugineous; the ſquamma, which is placed between the body and the thorax, is of a rounded oval figure, pointed at the top, and undivided: the body is brown, and conſiſts of five ſegments.

It is common with us in woods, where it uſually lives in the hollow trunks of decayed trees. Authors call it Formica maxima, and Hippo murmex.

Formica rubra minima.
The little, red Formica.

The red Ant.

This ſpecies is as much ſmaller than the common ant, as the firſt is larger: it's head is very ſmall; it's thorax is bulky, and the ſquamma which ſeparates that from the body is of a roundiſh figure, and ſlightly dentated: the legs are ſlender; the wings are very thin and browniſh.

It is not uncommon in the hilly and dry paſtures among the graſs, and on the leaves and ſtalks of the ſmaller plants.

Formica minor atra.
The little, black Formica.

The black Ant.

This is of a middle ſize, between the common and the little red Ant: it's head is large, in proportion to the body: the thorax is flatted, and the body joined to it at a diſtance: the ſquamma, which ſeparates them, is of an oval figure, and undivided at the edges: the legs are longer and ſlenderer than in any other ſpecies.

It is not uncommon with us on heaths, and in dry paſtures.

The other ſpecies of the Formica are, 1. The common Ant or Piſmire. 2. The large, brown Ant. 3. The great, yellowiſh Ant of the Eaſt Indies. 4. The great, black Ant, with a ſmall head. 5. The large American red and black Ant.

Among the ants, as among the bees, and many other of the gregarious Inſects, ſome of the ſame ſpecies are males, others females, and others of neither ſex. The two firſt, in all theſe caſes, are few in proportion; the others make up the number. Among the bees, the males are what we call drones, and are three or four hundred in a ſwarm: the female is often only one in the ſwarm, ſometimes two, rarely more. The drones or males are deſtroyed by the working bees, as ſoon as the time of impregnating the female is over; and, among the ants, even the females are denied a place in the ſwarm. The males and females in the common ant have both wings, but the ants which make the ſwarm, and do the whole buſineſs, have none: the females are largeſt of all; the males are of a middle ſize, and the working or neutral ants are much ſmaller than the males: theſe keep poſſeſſion of their habitation, and as ſoon as the buſineſs of impregnation of the females, and laying the eggs, is over, they drive both the males and females from among them.

WINGED INSECTS Series 1st 2d



The Common Italian Cicada



The lesser Italian Cicada



The little Cicada with pale brown wings



The American Laternaria or Yellow Compress'd Cicada



Cimex Sp 1.



Cimex Sp 5



Cimex Sp 3



Cimex Sp 11



Cimex Sp 7



Cimex Sp 8



Cimex Sp 9



Cimex Sp 2



Cimex Sp 4



Cimex Sp 3



Notonecta the Boatfly





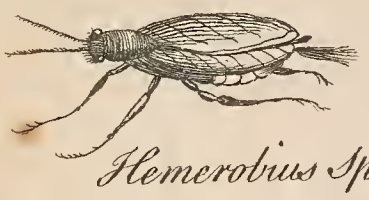
The Water Scorpion



The Scorpion Fly



The Sharp taild fly



Hemerobius Sp 4

Phryganea



Phryganea Sp 1



Phryganea Sp 4



Hermerobius Sp 1



Ephemera Sp 1



Ephemera



Ephemerea Sp 1



Ephemerea Sp 4



The Green Libellula

Libellulæ



The Red bodied Libellula



The Short bodied Libellula



The broad Yellowish bodied Libellula

Butterflies



Papilio Sp 11



Papilio Sp 2



Papilio Sp 9

Moths



Phalæna Sp 6



Phalæna Sp 10



Phalæna Sp 11

Bees



Tenthredo Sp 9



The Yellow Ichneumon Fly



The Green and Yellow Bee

Apis Sp 18

Apis Sp 13

The Great Humble Bee

Formica Sp 5

Formica Sp 5

B. Cole Sculpt.

INSECTS.

Series the Third.

GYMNARTHRIA.

Insects which have soft and naked bodies, furnished with limbs.

THE modern naturalists have called these Zoophyta, a term expressing creatures partly of an animal, and partly of a vegetable, nature: it was, indeed, in the earlier ages of natural knowledge, supposed, that there were things of this middle nature between the animal and vegetable world; but as a better acquaintance with the subjects of this study has since sufficiently convinced us, that there are no such creatures, it is extraordinary, that the term should be retained by accurate writers, and that also, while they are perfectly convinced, that there is no participation of the vegetable character in the creatures ranked under it, but that they are as truly and perfectly animals, as any other part of the living creation.

The animals of this series all agree so regularly in their general characters, that there is no dividing them into distinct classes, though the genera are numerous.

LIMAX.

THE body of the Limax is of a figure approaching to cylindric, and is perforated at the side: the tentacula are four in number, and two of them have the appearance of eyes.

Limax ater.
The black Limax.

The black, naked Snail.

This is a considerably large Insect: it's length is about three inches, and it's diameter half an inch; it's head and tail are smaller than it's middle; the back is raised into a convexity; the belly is flat; the whole body is furrowed and wrinkled very considerably, and is of a deep black colour, except on the belly, where it is paler and somewhat grey. It thrusts out occasionally, at the head, four tentacula, or feelers: the whole body is covered with a glutinous fluid, somewhat like that which naturally covers the eel kind: It is an hermaphrodite, both sexes being in each individual, and both in the coitus impregnate, and are impregnated, at the same time.

It is common in woods, and under hedges, and in our cellars and other cool places: it appears most in damp weather.

Limax subrufus.
The reddish Limax.

The naked, red Snail.

This is a smaller species than the former: it grows to about two inches in length, and is thinner in proportion than the black snail: it's body is covered with numerous slight furrows or wrinkles, and is of a dusky-reddish colour, except on the belly, where it is whitish or greyish: it is covered with a tough thick mucous matter, and moves very slowly, leaving the mark of the path it has kept in the remains of it's mucilage, which dries into a thin glossy film.

It is common in our woods after rain: Lister calls it Limax subrufus.

Limax flavus maculatus.
The yellow, spotted Limax.

The Amber Snail.

This, when full grown, is about an inch and a half long: it's back is prominent; it's belly hollowed, and it's head small: the whole surface is slighty wrinkled, and is covered with a mucous juice: the colour is a glossy yellow, with a cast of brown in it; and the whole body is variegated with spots of a greyish colour.

It is very frequent in woods in the North of England: about London, it is rarely met with: Liſter calls it Limax ſuccini colore albidis maculis inſignitus.

The other ſpecies of Limax, are, 1. The very large, grey Limax, ſpotted with a duſky brown. 2. The little ſhort and thick, grey Limax, without ſpots. 3. The ſmooth-bodied, reddiſh-brown Limax. 4. The ſmall duſky brown, furrowed Limax. 5. The deep chocolate-coloured Limax.

LERNEA.

THE body of the Lernea is of an oblong cylindric figure, and is perforated in the forehead: the tentacula reſemble ears.

Lernea tentaculis quatuor, duobus apice lunulatis.
The Lernea, with four tentacula, two of them lunulated at the top.

This is a ſmall ſpecies: it is about half an inch in length, and of the thickneſs of a ſmall ſtraw: the body is rounded, and of a pale greyiſh-white, gloſſy on the ſurface, and ſomewhat pellucid: it is thruſt out of a kind of coat or ſheath, as it were, at the baſe, which is of a white colour, and reſembles a thick ſkin: toward the other extremity of the body, there are three obtuſe tubercles, one of which is much larger than the reſt: the mouth is ſituated in the anterior part, and near it there are two ſoft and fleſhy proceſſes; and near theſe there is alſo on each ſide another ſoft proceſs, which is lunated at the extremity

It is found on the ſides of the bream, carp, and roach, in many of our ponds and rivers, in great abundance.

Lernea tentaculis brevibus craſſis ſimpliciſſimis. The Sea Hare.
The Lernea, with ſhort, thick, and ſimple tentacula.

This is a conſiderably large ſpecies, in compariſon of the former: it grows to two inches and a half in length, and to more than an inch in diameter: it's body approaches to an oval figure, and is ſoft, punctated, of a kind of gelatinous ſubſtance, and of a pale lead colour; from the larger extremity there ariſe four oblong and thick protuberances; theſe are the tentacula; two of them ſtand nearly erect, two are thrown backward.

It is not uncommon about our ſhores: ſome of the writers on theſe ſubjects have called it Lepus marinus; others, Lepori marino congener; and ſome have named it Urticæ marinæ ſpecies: but, in general, the diſtinctions, conveyed under theſe names, are very little underſtood.

Lernea corpore bifurcato.
The Lernea, with a bifurcated body.

This ſpecies rarely exceeds three quarters of an inch in length: it's body is of a cylindric figure, and moderately thick, and is compoſed of a ſofter matter, contained as it were in a firmer, white, and ſomewhat wrinkled ſkin: the anterior extremity of the body is ornamented with four tentacula of a variable figure; two of them larger at the points than elſewhere; the other two ſmaller: at the oppoſite extremity, the body is forked, or divided into two portions, which are ſhort and pointed.

It is frequent about the Bognor rocks on the Suſſex coaſt, as alſo in Cornwall.

The other ſpecies of the Lernea, are, 1. The larger, whitiſh Lernea, with a double tail. 2. The ſmall, ſoft, and thick, or double-tailed Lernea. 3. The thick Lernea, the Lepus marinus of Cloumna. 4. The ſhort, oval, ſharp, and ſingle-tailed Lernea. 5. The oblong-bodied Lernea, with little pointed protuberances on it. 6. The conoide Lernea. 7. The ſhapeleſs, ſomewhat oval, and flat Lernea. 8. The larger, rounded, depreſſed Lernea. 9. The cingulated Lernea. 10. The oblong, thick, verrucoſe Lernea. 11. The ſhorter and ſmoother Lernea. 12. The Lernea, with a palmated tail. All theſe ſpecies I have met with on our own coaſts; many of them on the Suſſex, ſome on the Yorkſhire ſhores. Authors ſeem to have deſcribed ſome of them, but it is ſo very imperfectly, and uncertainly, that it is hard to aſcertain

which particular ſpecies is meant, by any of their engravings or deſcriptions; they will be eaſily diſtinguiſhed by theſe ſpecific names, care being firſt taken to admit none of a wrong genus among them, but attention firſt paid to the number of the tentacula.

MEDUSA.

THE body of the Meduſa is of an orbiculated figure and convex, and is of a gelatinous ſubſtance, and not hairy: the tentacula, or the plicæ, which are in the place of them, are ſituated in the center of the under part of the animal: authors have deſcribed ſeveral of the ſpecies of this genus, under the names of Urticæ marinæ, and Pulmones marini.

Meduſa orbiculi margine ſedecies emarginato.
The Meduſa, with the rim of the orbiculus emarginated in ſixteen places. — The Sea Lungs.

This is a very ſingular and odd animal: it ſeems a mere lump, of a whitiſh ſemipellucid jelly, and is as eaſily broken and deſtroyed by a touch, as the common jellies brought to our tables: it's ſhape is rounded, riſing into a convexity in the middle, where it is therefore thickeſt, and whence it becomes gradually thinner to the ſides; on the under ſide it is plain, and on this there is viſible a rough, or as it were echinated, circle, within which there run eight pairs of rays from the center toward the circumference; and from the center there ariſe alſo a number of curled appendages, which are ſometimes reddiſh, but more uſually whitiſh, and a vaſt multitude of ſlender filaments: the edge, or the circumference of the body, is regularly divided into eight portions, and each of theſe is emarginated, ſo that on the whole verge there are ſixteen ſinus's.

I have met with this ſpecies, in vaſt abundance, floating on the ſurface of the water about Sheppey iſland in Kent, and elſewhere on that coaſt: great quantities of it are deſtroyed, by being thrown on ſhore with the waves, whence it has no power of getting off again; and, in the open ſeas, many fiſh ſkim near the ſurface, and prey on them: all the writers on this ſubject have deſcribed an animal of this claſs, under the name of Pulmo Marinus, but ſo inaccurately that it is hard to ſay, if they meant this ſpecies; their figures alſo are as bad as their deſcriptions: in ſhort, this claſs of animals, in general, are ſo very confuſedly treated of by authors, that the only way to come at a knowledge of them is to diſregard what has hitherto been ſaid on the ſubject. Linnæus's generical diſtinctions are, indeed, accurate, and, as ſuch, the characters are retained here.

Meduſa orbiculo ſubtus quatuor cavitatibus notato.
The Meduſa, with four cavities on the under ſurface. — The Sea Nettle.

This appears, as floating on the water, to be a mere lifeleſs lump of jelly: it is of a whitiſh colour, with a caſt of bluiſh-grey, and is of an orbiculated figure, elevated into a convexity in the middle, on the upper ſide, flat on the under, and furniſhed with a fringe of fine and ſomewhat rigid filaments round the edge, reſembling white hairs: on the under ſurface there are four cavities near the center, each of an arcuated figure, and ſurrounded with an opake line, formed of about twenty-four parallel points or dots: from the very center of the under ſide there ariſe four crooked appendages, which have each a row of hairy filaments on the exterior edge; and on the upper ſurface there is an appearance of fine veſſels of a pale colour.

This ſpecies is frequent floating on the ſurface of the ſea, or adhering to rocks about our own coaſts; and, when the ſun ſhines on them, they have a very beautiful lucid appearance. Authors have deſcribed it, but very inaccurately, under the name of Urtica Marina, or the Sea Nettle, a term uſed to expreſs it's cauſing a diſagreeable tingling in the hands, when taken up.

Meduſa orbiculo cruce alba picto.
The Meduſa, with the orbiculus marked with a white croſs.

This is a very beautiful little ſpecies: it rarely exceeds an inch in diameter, or a third of an inch in thickneſs: it is a lump of a fine tranſparent colourleſs jelly; but, under the full ſunſhine, ſometimes appears as it were on fire, and ſometimes ſhews all the colours of the rainbow: it is quite even and undivided at the edges, and, on the center of the under ſurface, is beautifully variegated with a white croſs, which reaches quite from one ſide to the other.

It is leſs frequent than the two former ſpecies, but is ſometimes found about our coaſts. I have met with it in Suſſex.

The other ſpecies of the Meduſa are, 1. The very large, flat Meduſa, with eight double punctated lines. 2. The great, convex, and very thick Meduſa. 3. The great Meduſa, with only four ſinuations at the edge, but thoſe very deep. 4. The leſſer ſmooth-edged Meduſa. 5. The Meduſa, with ſix emarginated lobes at the edge. 6. The multifid-edged Meduſa. All theſe ſpecies I have met with about the Suſſex and Kentiſh coaſts: authors ſeem to have meant ſome of them by their figures and deſcriptions, but they have expreſſed themſelves ſo inaccurately, that nothing can be determined with certainty from their accounts.

APHRODITA.

THE body is of an oval figure, and aculeated; and there is a perforation in the middle of the back.

Aphrodita elliptica verſicolor.
The elliptic, changeable-coloured Aphrodita.

This is an extreamly ſingular animal; at firſt ſight, it is not eaſy to make a gueſs at what it is; it has greatly more the appearance of a fragment of ſome other body, than of a compleat animal. It is about two inches in length, and more than an inch in diameter in the middle, from whence it grows gradually a little ſmaller to each end; but is at both extremities obtuſe, and the difference in breadth is ſo little between thoſe and the middle, that it has, upon the whole, the appearance of a tolerably regular elliptic figure: it's back is convex and rounded; it's under part flat: it is of a ſoft and tender ſtructure, and is covered all over with little tufts of ſhort and ſlender filaments in manner of hairs; theſe are ſhorteſt on the middle, and longer gradually toward the edges; they are of a mixt purpliſh and yellowiſh colour, and in ſeveral lights appear of different degrees, between a gilded brown and thoſe two colours, in the manner of the changeable ſilks. In the middle of the back there is an aperture or hole, ſurrounded with a tuft of theſe hairs; and, when the creature is preſſed, a liquor, like ſea water, is forced out at this aperture, and the whole body becomes flaccid and leſs convex.

I met with it in great abundance this laſt ſummer on the Kentiſh coaſt, among rocks: the accounts authors give of theſe bodies are ſo imperfect that it is not certain this ſpecies has been deſcribed by any of them.

Aphrodita ſubcylindrica variegata.
The ſubcylindric variegated Aphrodita.

The Sea Mouſe.

This is a ſlenderer ſpecies than the former, but is more than equal to it in length: the back is rounded; the belly is alſo ſomewhat prominent in the middle, not flat as in the other ſpecies: it's ſubſtance is ſomewhat firm, and it's two ends are nearly equal to the middle in thickneſs: it is covered with hairy filaments, which are ſhort on the middle of the back, but longer at the ſides; they are all ſomewhat rigid and firm; thoſe on the back ſtand erect, like the quills of a porcupine; thoſe on the ſides lie flat, and are of a great variety of colours; a beautiful blue and lively green are very diſtinct in them, and a gold-yellow ſeems the moſt predominant colour; on the back they are of a duſkier colour, and in many places of a greyiſh-brown.

NAKED INSECTS

Snails

The Amber Snail

The Black Naked Snail

The Red Naked Snail

Sea Insects

Lernæa Sp.1.

Medusa Sp.1.

Medusa Sp.2.

Medusa Sp.4.

Aphrodita Sp.1.

Aphrodita Sp.4.

Amphitrite Sp.1

Amphitrite Sp.3.

Amphitrite Sp.8.

Tethys Sp.2

Tethys Sp.7.

Nereis Sp.4

Salacia Sp.3.

Actinia Sp.2.

Actinia Sp.1.

Starfish

The five Fingerd Strarfish

Asterias Sp.1.

Asterias Sp3

The Sea Comet

Asterias Sp.6.

The Cuttle fish

B. Cole Sculp.

We have it about the coaſts of Suſſex, Kent, and Eſſex: moſt of the writers on theſe ſubjects have deſcribed it. Columna calls it Pudendum regale; Bartholine, Vermis aureus; others; Vermis aureus, and Eruca marina griſeo-fuſca; ſome Mus Marinus, or the Sea Mouſe.

Aphrodita ſubrotunda.
The roundiſh Aphrodita.

This is a moderately large ſpecies: the ſhape is nearly round, the back very convex, and the belly flatted: the ſubſtance is tender and gelatinous: it is covered with a quantity of fine ſhort hairs, of a greyiſh, or bluiſh, colour, with an admixture of yellow; theſe are longeſt at the ſides, and have there more beautiful colours, than in any other part: in the center of the animal on the back, there is a ſmall aperture of an oval figure, out of which water is diſcharged in a ſmall quantity, on preſſing the creature.

It is found on the Kentiſh coaſt, but not frequently. I have not met with it elſewhere.

The other ſpecies are, 1. The large brown Aphrodita. 2. The large, depreſſed, greyiſh Aphrodita. 3. The oblong and ſubcylindric Aphrodita. 4. The ſmaller, bluiſh Aphrodita.

AMPHITRITE.

THE body of the Amphitrite is of an oblong figure, and has a great number of deep ſtriæ, giving the appearance of numbers of lamellæ: it has but one tentaculum, which is of a ſlender and oblong form, reſembling a piece of thread.

Amphitrite ſtriis numeroſis corpore latiore.
The broader bodied Amphitrite, with numerous ſtriæ.

This is a large ſpecies; it grows to an inch and a half in length, and to three quarters of an inch in diameter in the largeſt part: it's ſhape approaches to an obtuſely conic one; it's ſubſtance is tolerably firm; it's colour a bright pale blue, and in the ſun it is very bright and gloſſy: the whole ſurface is covered with a vaſt number of ſlight furrows; the ridges between, which form a kind of lamellæ, like thoſe under the head of a ſmall muſhroom: the tentaculum is near half an inch long, when exerted to it's full length, and is white and ſoft.

It is found in the ſalt water ponds, on the American iſlands, in great abundance: ſome of the old writers have called it a ſpecies of Urtica Marina.

Amphitrite ſubcylindrica ſtriis profundioribus undulatis.
The oblong Amphitrite, with deep and undulated ſtriæ.

This is ſometimes met with of the length and thickneſs of a man's finger, but often ſmaller: it is of a ſubcylindric figure, thickeſt toward the hinder part, but obtuſe at both ends: it's colour is a bluiſh, with a caſt of brown; it's ſubſtance tolerably firm: it has only a ſingle tentaculum, which is ſomewhat thick, and of an inch in length: the whole body is covered with longitudinal furrows, which do not run ſtraight from end to end, but wind about in many places, and, in moſt, are a little undulated.

I have met withit on ſome of the extream rocks of the Bognors, on the Suſſex coaſt, which are almoſt always under water: authors ſeem to have deſcribed it under the name of Epipetron.

Amphitrite corpore marginato.
The Amphitrite, with a marginated body.

This is a very ſingular ſpecies; it is about two inches and a half in length, and in the broadeſt part, where it is marginated: it's colour is a pale greyiſh-white; it's ſubſtance ſoft and tender; for about a third part of it's length, it is rounded and naked, but the other two thirds are extended in breadth by a marginated edge each way, formed

ed of a kind of ſkin, or thick membrane: the whole ſurface is covered with ſlight undulated furrows.

I have met with it on the Yorkſhire coaſt, but not frequently. Some of the old writers have called it Penna marina.

The other ſpecies are, 1. The ſhorter, marginated Amphitrite. 2. The long and almoſt ſmooth Amphitrite. 3. The long, ſlender, and digitated Amphitrite. 4. The thick, conic Amphitrite, ſmall at one extremity. 5. The pediculated, rough Amphitrite. 6. The ſmall and rounded Amphitrite obtuſe at both ends. 7. The large, obtuſe, and very deeply furrowed Amphitrite. 8. The ſlightly furrowed Amphitrite, called Adamas marinus.

TETHYS.

THE body of the Tethys is formed, as it were, of two lips, with an oblong cartilaginous body between them: there are four tentacula, which have the form of ears, and two perforations in moſt ſpecies near the tentacula.

Tethys rugoſa corpore longiore.
The oblong, rugoſe Tethys.

This grows to two inches and a half in length: it's ſubſtance is tough, but not hard; it's colour a duſky grey, with an admixture of brown: the diviſions of the body are large and thick; the intermediate part of a cylindric figure, but buttoned, as it were, at the end: the tentacula are broad and ſhort, and two of them are much ſhorter than the others.

We have it on the coaſts of Cornwal, and in ſome other places. Authors have very confuſedly deſcribed it under the name of Holothurium and Tethys, among ſeveral other bodies; ſome of them ſpecies of this genus, others of others, under the name of Tethyos variæ ſpecies.

Tethys verrucoſa corpore breviori.
The verrucoſe Tethys, with a ſhorter body.

This is a ſmall ſpecies: the diviſions of the body are thick, ſomewhat flat, and of a firm texture; the intermediate part is of an oval figure, more firm and verrucoſe, or covered with ſmall, obtuſe protuberances; the colour of the whole is a bluiſh-grey: the tentacula are all four of equal length, and are ſlender and thin; the apertures are large.

This is frequent about the coaſts of Italy, but is not met with on our own. It has been imperfectly figured and deſcribed by authors, among their various ſpecies of Tethys.

Tethys corpore ovato-glabro.
The ſmooth, oval-bodied Tethys.

This grows to about an inch and half in length, and more than an inch in diameter in the largeſt part: the diviſions of the body are broad, ſhort, and thick: the intermediate part is alſo thick, ſhort, and rounded at the end: the tentacula are thick and obtuſe, and the perforations very ſmall: the ſurface of the whole is ſmooth, and the texture ſoft and tender.

This is found on our own coaſts, but not frequently. I have met with it in Suſſex.

The other ſpecies are, 1. The large, oblong, ſmooth Tethys. 2. The large, verrucoſe, thick Tethys. 3. The irregular-bodied Tethys. 4. The roundiſh-bodied, furrowed Tethys. 5. The ſhort, hairy Tethys. 6. The pyriform Tethys. 7. The broad, flat Tethys. 8. The ſmall, grey, hairy Tethys.

NEREIS.

THE body of the Nereis is of a cylindric figure; and the tentacula are four in number, but two of them are uſually very ſhort, often ſcarce perceptible.

Nereis

Nereis tenuior lævis.
The ſlender and ſmooth Nereis.

This is one of the ſmaller ſpecies: the length is about two inches, the thickneſs not more than that of a large earthworm; the ſubſtance is gelatinous, and the colour a bluiſh-white, when the ſun ſhines on it very bright and gloſſy: the whole ſurface is ſmooth, and the belly a little flatted, otherwiſe the whole body is rounded; there are four tentacula, two of which are half an inch long, the other two not more than a third of an inch, and the latter are thicker than the others.

It is found in the American iſlands in ſalt-water ponds. Authors have mentioned what they call a Scolopendra marina lævis, which ſeems to be this ſpecies; though, what ſhould induce them to give it the name of Scolopendra, is not eaſy to ſay.

Nereis ſubhirſuta.
The hairy Nereis.

This is about two inches and a half long, and about three quarters of an inch in diameter: it's ſubſtance is firm and tough, and it's colour a pale brown: it has many little cluſters of hairs growing on the back, and yet more numerous ones at the ſides; they have a kind of fleſhy protuberances to which they grow, and, while the creature is in the water, they ſtand erect; at other times they are flaccid; the colour of the hairs is a mixt brown and yellow, and is very gloſſy.

It is found on our own coaſts, and by ſome authors has been called alſo a Scolopendra marina, and that with ſomewhat more appearance of reaſon than the former, though in reality an animal of a quite diſtinct claſs.

Nereis tuberculoſa.
The tuberculoſe Nereis.

This ſpecies grows to three or four inches in length, and, in the largeſt part, to about an inch in diameter: the ſubſtance is ſoft and ſlender, and the colour a mixt grey and brown; there are no hairs on it, but there are at ſeveral diſtances a kind of papillæ or fleſhy tubercles, obtuſe at their tops, and paler than the reſt of the ſurface: the tentacula are four, but two of them are ſo ſhort, as to be ſcarce diſtinguiſhable.

It is frequent on the Suſſex coaſt, and has been figured by ſome of the writers on theſe ſubjects.

The other ſpecies are, 1. The ſmall, ſmooth, thick Nereis. 2. The tuberculoſe Nereis, with the tubercles pointed at the ends. 3. The wrinkled Nereis. 4. The large, ſoft Nereis.

SALACIA.

THE body of the Salacia is of an ovato-oblong form, and the tentacula are numerous, and diſpoſed in little cluſters.

Salacia ſuperficie undulata.
The Salacia, with an undulated ſurface.

This is a tolerably large ſpecies; it's length is an inch and three quarters, and it's thickneſs about an inch: it is largeſt at the naked extremity, where it terminates in an obtuſe and rounded form; from this it grows gradually, but not regularly, ſmaller to the other extremity, where it terminates in a rounded, but not very thick, end: the ſubſtance is tolerably firm; the whole ſurface is undulated and uneven; the colour is a browniſh-grey; there are three cluſters of tentacula toward the ſmaller extremity. On preſſing this, and ſeveral of the other ſpecies of this and many of the preceding genera, there is a thin fluid diſcharged from their natural aperture, after which, being leſs full, they appear flaccid, till repleniſhed again: this has occaſioned thoſe of the oblong form, in general, to be confounded by authors, under the whimſical names of Priapus marinus, and Mentula marina.

Salacia oblonga glabra.
The ſmooth, oblong Salacia.

This is about two inches and a half long, and an inch and a half in diameter: the ſurface is perfectly ſmooth; the colour a very pale grey, and the ſubſtance ſoft and tender: it is larger at one extremity than at the other, but obtuſe and rounded at both; it's whole ſurface is ſmooth and gloſſy, and, when the ſun ſhines on it, is very bright: toward the ſmaller extremity there are ſeveral cluſters of tentacula.

It is common on the coaſt of Portugal.

The other ſpecies of the Salacia are, 1. The ſmall, furrowed Salacia. 2. The ſmall, punctated Salacia, with ſhort tentacula. 3. The larger, thick Salacia, with numerous tentacula. 4. The great, gelatinous Salacia.

ACTINIA.

THE body of the Actinia is of a naturally cylindric, but variable, figure: the tentacula are very numerous, and are arranged in ſeveral ſeries about the mouth, which is placed at one of the extremities of the body.

Actinia tentaculis verſicoloribus, cauda tricuſpidi.
The Actinia, with changeable-coloured rays, and a tricuſpidate tail.

This is an extreamly elegant ſpecies: it lodges itſelf in little cavities of rocks, and of the larger ſea-plants of the ſtony kind, and only appears on their ſurface, when all is quiet about it: it's body is naturally of an oblong figure, and equally thick in all parts, and ſeems, in a moderate ſtate of extenſion, to be about half an inch long; but the creature, at pleaſure, contracts it almoſt to nothing, and extends it to a great length: it's tail is divided into three parts, or, as it were, terminated by three points; theſe it fixes into ſome cracks of the body it inhabits, and by that means fixes itſelf very firmly in it's place. When all is quiet about it, it advances it's other extremity, at which is the mouth, to the ſurface of the ſtone, and diſplays all round it a great number of tentacula, formed like ſo many rays, and diſpoſed in two or three ſeries ſucceſſively ſhorter than each other; theſe are in a continual, vibratory motion, and by that means draw ſmall animals that inhabit the water into it's mouth for food: the whole animal is of a pale fleſh colour, except theſe tentacula, which are of a conic figure, and have a beautiful variety of colours, red, yellow, and blue, and many others: when they are fully expanded, they give much of the appearance of ſome of the flower of the compoſit, flowered plants.

It is not uncommon on the coaſts of the American iſlands, and in the ſalt-water ponds on ſeveral of them.

Actinia corpore ventricoſo, cauda ſimplici, tentaculis planis.
The Actinia, with a ventricoſe body, a ſimple tail, and plane tentacula.

This is a larger, and, if poſſible, a more elegant ſpecies than the former: it's body, in what ſeems it's ſtate of greateſt reſt, is oblong, rounded, and ſomewhat bellied in the middle: it has ſix ridges running longitudinally at equal diſtances, from end to end of it, and the tail is ſimple; between theſe ridges there are ſeveral rounded, depreſſed ſpots, of a paler red than the reſt; the ridges alſo are pale, the reſt of the body of a ſtrong fleſh colour. It buries itſelf, in the manner of the former, in a cavity of ſome rock, and at the ſurface diſplays it's tentacula in three or four diſtinct ſeries round the mouth, which is a large opening, of an oval figure, at the extremity of the body: the tentacula are ſucceſſively ſhorter from the outer circle to the inner one; they are all of a pyramidal figure, thin and ſmooth, and tinged with a beautiful variety of colours.

It is found on the coaſts of America and of the Eaſt Indies, in the cavities of rocks.

This,

This, or ſome other ſpecies of this genus, has been very pompouſly deſcribed by Mr Hughes, in the Philoſophical Tranſactions, and in his Hiſtory of Barbadoes, under the name of the *Sea Anemone*; but, from his unacquaintance with the characters and diſtinctions of the animals of this claſs, it is not eaſy to ſay, with certainty, which it is that he means.

Actinia tentaculis capillaceis.
The Actinia, with capillaceous tentacula.

This is a very ſmall ſpecies: it's body is oblong, ſlender, and whitiſh, ſeldom exceeding a third of an inch in length: it's tail is ſimple; it's tentacula are numerous, but all of the ſame length, and diſpoſed in a double ſeries; they are very narrow, and are in a continual, vibratory motion.

It is frequent in the regular, ſtellar cavities of the madreporæ, and in thoſe of ſeveral of the other ſtony ſea-plants, as alſo in the holes of rocks and ſmall ſtones. There are not wanting authors of great credit, who aſſert that the madreporæ, the corals, and the generality of what we call the ſea-plants, are not vegetables, but the work of Inſects of this kind, and of other of theſe genera, the Nereides, Polypes, and Meduſæ. It is very evident, that theſe Inſects are found frequently in the cavities of thoſe plants, but they are alſo as frequently found in thoſe of rocks and pebbles; and it would be as juſt to ſuppoſe thoſe greater and ſmaller irregular maſſes of ſtony matter fabricated by them, as theſe regular and beautiful plants.

The other ſpecies of this genus are, 1. The larger Actinia, with numerous, variegated, conic rays, and a ſmooth body. 2. The great, white, ſimple, coloured, furrowed-bodied Actinia. 3. The little, white Actinia of the ſtony plants, with few tentacula. 4. The little, fleſh-coloured Actinia, with very numerous tentacula.

BIOTA.

THE body of the Biota is of a cylindric figure, but variable: the tentacula are arranged in a ſingle ſeries, round the aperture of the mouth, at the extremity of the body.

The generality of authors have called the ſpecies of this genus Polypes, a very abſurd and improper name for an animal, which has no legs, the ſenſe of it being many legs, or many feet. Linnæus has called the genus Hydra, I ſuppoſe from the repullulation or reproduction of the parts, when cut off, which put him in mind of the heads of the imaginary ſerpent ſo called; but there ſeems an affectation and quaintneſs in this, which the pure ſimplicity of natural hiſtory does not allow. The principle of life, in the ſeveral parts of this creature, any fragment of which will become an entire animal in a few days, is, indeed, very remarkably ſtrong; and I have rather choſen to expreſs it by the generical name, by the ſimple word, Biota, from the Greek Βίος, Life, than by ſo affected a term as Hydra.

Biota corpore ſubcylindrico, tentaculis longiſſimis.
The Biota, with a ſubcylindric body, and very long tentacula.

The Polype.

This is the ſpecies of this genus: the ſurprizing properties of which were diſcovered by Monſieur Trembley, and which, having been firſt known and kept alive in glaſſes among us, obtained, by way of eminence, the name of *the Polype*, the other ſpecies being diſtinguiſhed by their different characters.

There is ſcarce an animal in the world, which it muſt be more difficult to deſcribe, than this, as it has ſcarce any thing conſtant in it's form: it varies it's whole figure at pleaſure, and is frequently found beſet with young in ſuch a manner, as to appear ramoſe and divaricated; theſe young ones adhering to it in ſuch a manner, as to appear parts of it's body.

When ſimple and in a moderate ſtate, as to contraction, or dilatation, it is an oblong animal, ſlender, pellucid, and of a pale reddiſh colour: it's body is ſomewhat ſmaller toward the tail, by which it affixes itſelf to ſome ſolid body, and larger toward the

other extremity: at the larger extremity there is a large opening, which is the mouth, and round about this are placed the tentacula; they are eight in number, and are uſually extended to about half the length of the body; the creature can at pleaſure contract it's body into a much ſmaller compaſs, or diſtend it into a larger; it can reduce it to a ſhort button, as it were, or extend it a much more conſiderable length; but the tentacula are yet more diſtenſible. I have had ſome of them, that have extended them to ſeven inches in length, in which ſtate they become of an almoſt unconceivable fineneſs; and the dimenſions of the glaſs I kept the creature in, ſeemed at that time to ſet limits to the extenſion, which nature had not: by means of eight of theſe tentacula, or arms, as they are commonly called, thus expanded into a circle of more than a foot diameter, the creature feels every thing that can ſerve it as food, that ſtirs in that portion of the water in which it lives, and, ſeizing the prey with one of them, calls in the aſſiſtance of the reſt, if neceſſary, to conduct it to it's mouth.

There does not appear to be any thing analogous to copulation in this animal, in order to the producing it's ſpecies. A ſingle one, put by itſelf into a glaſs of water, will, after a little time, produce from it's ſides, in different places, ſeveral young ones; and theſe, while they yet adhere to the parent animal, will alſo have others produced from their ſides; ſo that it is not uncommon to ſee a parent animal loaded with ten, or even twenty young ones, and their progeny, before any drop off.

What is however the moſt ſingular property, in the increaſe of this Inſect, is the reproduction of the mutilated parts, and indeed the growth of the whole from any ſegment; not only the tentacula, or arms, are reproduced after being cut off, but the tail, or the head, with the whole apparatus of the tentacula, will be reproduced on the body after cutting off; and the part cut off will alſo reproduce the body; in fine, there is no part of the Inſect, which, on being ſeparated from the reſt, will not reproduce all that is wanting to make it a perfect animal; ſo that the ſhort way to have a number from one Polype is to cut it into ſeveral pieces, each of which will ſoon be a perfect animal, and will produce it's young ones in the method already mentioned.

This ſpecies is frequent in Holland; we have it alſo in our ditches, but leſs frequently than ſome of the other kinds. It's food is the common aſcaris, or ſmall red worm, abundant in the mud of the Thames, and moſt of our ponds and rivers.

Biota corpore craſſiore tentaculis brevioribus.
The thicker-bodied Biota, with ſhorter tentacula.

This is a ſmaller ſpecies than the former, and, in it's ſtate of moderate contraction, is ſhorter and thicker in proportion than that: it's uſual length is half an inch; it's head is larger than in the former; and it's colour, a duſky greeniſh, or olive: it's tentacula are uſually not more than a third of the length of it's body; it can indeed extend them to ſeveral inches, but not fully to the dimenſions of the other.

This ſpecies is very common with us in the little drains, cut through our meadows for carrying off the water: it adheres by the tail to ſticks, and to the ſtalks of the water plants: it has all the properties of the former.

Biota tenuior albeſcens tentaculis capillaceis.
The ſlender, whitiſh Biota, with capillaceous tentacula.

This, in a ſtate of moderate contraction, is equal to the firſt ſpecies in length, but it is very ſlender, and all the way of the ſame thickneſs: the colour is white: the tentacula are extreamly minute; they are alſo white, and may be diſtended to a great length.

It is not unfrequent in our trout rivers, adhering to the ſtalks of the water plants. It feeds on ſmall worms, and other Inſects, and has all the qualities and properties of the others.

Biota corpore brevi, tentaculis brevibus.
The Biota, with a ſhort body, and ſhort tentacula.

This is a very ſmall ſpecies: it's body is ſhort, and ſomewhat thick in proportion to it's length, and is white: the tentacula are very fine and very ſhort; they are diſtenſible to a ſmall degree, but not at all in the manner of the others.

It is frequent in the natural cavities of that ſpecies of the alcyonium, commonly called Fucus telam lineam ſericeamve textura æmulans, and in ſome other ſea plants: Linnæus, and other of the modern ſyſtematiſts, have gone ſo far as to ſuppoſe thoſe plants not to be truly vegetables, but caſes formed by theſe Inſects for their own lodging.

The other ſpecies of the Biota are, 1. The little Biota of the Corallines. 2. The large Biota of the red Coral. 3. The pale, ſlender Biota, of the ſeveral Corallines. 4. The ſmall, deep, red Biota, of the Tubularia. 5. The great oval-bodied ſea Biota. 6. The great, round-bodied, ſea Biota.

SEPIA.

THE body of the Sepia is of an oblong figure, and depreſſed: there are ten tentacula; two of which are longer than the others, and are pedunculated:

Sepia corpore ovato oblongo.
The Sepia, with an oblong, oval body.

The Ink-fiſh, or Cuttle-fiſh.

This is a large ſpecies: it's body is often ſix inches in length, and three and a half in diameter, though the greater number are found ſmaller: the body is of a ſomewhat oval, but oblong, form: it is broadeſt toward the head, and grows ſmaller to the extremity, where it is obtuſely pointed: it is ſupported by an oblong, light, and ſpungy ſubſtance, of a friable texture, and lined with a light fungous pith; this is what our ſilverſmiths uſe under the name of Cuttle-bone; and it is alſo received in the ſhops as an ingredient in tooth-powders: the head of the animal is large, and ſomewhat compreſſed; and from it riſe the ten tentacula: eight of them are of a pyramidal figure, and ſomewhat more than equal to the body in length: the other two are much longer; they conſiſt of a thick pedicle, terminated at the extremity by an oval body, conſiderably larger than any part of the other: the inner ſurface of theſe oval bodies, and that of the other tentacula along their whole courſe, are furniſhed with a number of hollow tubercles, or protuberances, formed for ſeizing and holding things faſt.

It is frequent in the European ſeas, but is not common about our coaſts: when in danger of being taken, it emits a black liquor like ink out at it's mouth in conſiderable quantity, which obſcures the water about it, and gives it an opportunity of eſcaping: all the writers on theſe ſubjects have deſcribed it under the names of Sepia and Sepia vulgaris.

Sepia Tentaculis pedunculatis longioribus, corpore angulato.
The angular-bodied Sepia, with long pedunculated tentacula.

This is a larger ſpecies than the former: it's body is often eight inches in length, and four and a half in diameter in the broadeſt part; and the long, or pedunculated, tentacula are, in that caſe, ten inches in length: the body is oblong and angulated: it is narrow toward the upper extremity; from thence it becomes broad near the bottom; and, from this broadeſt part, continues decreaſing to a point at the baſe: there runs a high and ſharp ridge all down it's middle, and the ſides are ſomewhat ſharp: the head is ſmall in proportion to the body; the eight common tentacula are of a pyramidal form, but very narrow in proportion to their length; and the other two are terminated by oval bodies, as in the other ſpecies: the inſides of theſe, and of the tentacula alſo, as in the other, are furniſhed with a number of tubercles, hollowed at their tops.

It is frequent in the warmer parts of Europe, but rare with us: authors call it Loligo.

The other ſpecies are, 1. The long and ſlender-bodied Sepia, with eight very ſhort and two very long tentacula. 2. The ſhort and roundiſh-bodied Sepia, with two of the tentacula very long.

TRITON.

THE body of the Triton is oblong: the roſtrum at the mouth is of a ſpiral form: the tentacula are fourteen in number, and twelve of them are cheliferous.

Triton corpore ſubovato, tentaculis membrana ad baſin connexis.
The Triton, with a ſubovate body, and with the tentacula connected by a membrane at the baſe.

This is a very ſingular animal: it is of about half the ſize of the common Sepia, it's body ſeldom exceeding three inches in length: it is of an oval figure, and ſomewhat compreſſed: it's baſe is the larger part of the oval, from whence it gradually becomes ſmaller to the head: the head is oblong and rounded, not compreſſed; and there runs from it a thick and tough membrane, which connects all the tentacula at their baſes, in the manner of the web between the toes of the feet of our water fowl; two of the tentacula are ſimple, oblong, and of a conic figure: the other twelve are cheliform at their extremities.

I have been favoured with two ſpecimens of it from Italy; elſewhere I have not heard of it.

Triton corpore graciliore.
The ſlender-bodied Triton.

This does not exceed four inches in the length of the body, and is not more than two in diameter in the broadeſt part: it is largeſt toward the head, and obtuſely pointed at the other extremity: the head is ſmall; the tentacula all ſhort and ſlender; the two ſimple ones are not more than an inch in length: the other twelve do not much exceed two inches, but they are beautifully cheliform at their extremities.

This alſo is found on the coaſt of Italy.

Triton tentaculis longiſſimis.
The Triton, with very long tentacula.

This is a ſmaller ſpecies than the laſt; the body is oval, and obtuſe at the extremity: the head large and inflated, and the roſtrum beautifully ſpiral: the two ſimple tentacula are about an inch and a half in length; the twelve others are at leaſt four inches, and are cheliform at their extremities.

This alſo is found on the ſhores of Italy.

ASTERIAS.

THE form of the Aſterias is that of a radiated ſtar: the mouth is ſituated in the center on the under part; and the anus in the center on the upper part: the tentacula are extreamly numerous, and in a manner cover, either the whole upper ſurface of the body, or the extremities of the ramifications.

Aſterias radiis quinis latiuſculis aſperis.
The Aſterias, with five, broad, rough rays.

The five-fingered Star-fiſh.

This is one of the moſt frequent of the Aſterias kind: it is uſually met with of about five inches in meaſure, from the tip of one ray to that of the oppoſite one: it's body, as the central part is uſually called to diſtinguiſh it from the rays, is ſmall and ſomewhat elevated on the upper part; the rays are of the thickneſs of a man's finger at the baſe, and grow gradually ſmaller to the extremity; the whole is of a pale whitiſh-colour, with an admixture of brown, and a faint caſt of red: the whole upper ſurface, both of the central part, and of the rays, is covered with ſhort tentacula.

It is common about our own coaſts, and has been deſcribed by all that have written on theſe ſubjects, under the names of Stella marina vulgaris, and Stella marina Plinii.

Aſterias radiis tredecim obtuſis.
The Aſterias, with thirteen obtuſe rays.

This is a very ſingular ſpecies: it has ſcarce any diſtinguiſhable central part or body; the rays ſtand ſo cloſe, that they cohere for more than half their length, only ſeparating toward their points; they are thick, ſhort, and obtuſe; the diameter of the whole animal is about two inches and a half, and it's colour a reddiſh-brown: it is very tender and friable, and the whole upper ſurface is covered with ſhort tentacula.

It is not uncommon on the coaſts of the Eaſt Indies, and ſome other places.

Aſterias radiis quinque tenuioribus.
The Aſterias, with five ſlender rays.

This is a ſmall ſpecies, the rays ſeldom exceeding ſingly an inch and a quarter in length: the body is ſmall, the rays are of a conic figure; they are pointed at the extremity, and are all over covered on the upper ſurface, with fine ſhort and flexile tentacula: it is of a browniſh-white colour, and very tender and friable.

It is frequent about the coaſts of Italy, and in moſt of the ſeas that waſh the warmer parts of Europe.

The other ſpecies of Aſterias are, 1. The broad-bodied, ſhort-rayed, five-rayed Aſterias. 2. The large, obtuſe, and ſhort-rayed Aſterias. 3. The broad and undulated-rayed Aſterias, with thick and pointed tentacula. 4. The broad, ſhort, and flat-rayed, five-rayed Aſteras, with ſhort, hair-like tentacula. 5. The Aſterias, with five ſhort, obtuſe, elliptic rays. 6. The Aſterias, with five, long, ſlender, and undulated, hairy rays. 7. The Aſterias, with five, broad, hairy, undulated rays. 8. The Aſterias, with five, narrow, thick rays, with the tentacula as it were prickly. 9. The Aſterias, with five, thick, narrow, and very ſharp-pointed rays. 10. The Aſterias, with five, broad, hollowed, and pointed rays. 11. The Aſterias, with five deeply furrowed rays. 12. The Aſterias, with twelve ſhort-pointed rays. 13. The Aſterias, with ten hairy and undulated rays. 14. The Aſterias, with ſeven narrow and long rays. 15. The Aſterias, with ſeven broader and tuberculoſe rays. 16. The Aſterias, with three long, ſlender rays. 17. The Aſterias, with numerous, hollowed rays. 18. The Aſterias, called the Sea Comet by authors. 19. The lumbrical Aſterias. 20. The narrow and hairy-armed Aſterias. 21. The great Aſterias, with ramoſe rays, called the Magellanic ſtar-fiſh, and the baſket-fiſh: the extremities of the rays of this ſpecies are ſubdivided to an almoſt inconceivable fineneſs; and the creature, when it extends them fully, forms a circle of near three feet in diameter: the fragments of the rays of this fiſh furniſh the foſſile entrochi.

THE

THE HISTORY OF ANIMALS.

PART II.

Of the Animals diſtinguiſhed by the title of AMPHIBIOUS.

THE lungs of theſe creatures are ſo formed, that, though reſpiration is neceſſary to them, yet it is not requiſite to be performed at ſhort intervals; whence they can remain a long while under water without ſuffocation, and many of them ſpend a very conſiderable part of their time there.

The Amphibious animals may conveniently be arranged under two ſeries; the firſt comprehending thoſe which have no legs, the others thoſe which have.

BOOK I.

Of SERPENTS.

Amphibious animals which have no legs.

CÆCILIA.

THE body of the Cæcilia is naked, but there are a number of rugæ or wrinkles at the ſides: the upper lip is prominent beyond the reſt of the mouth, and has two tentacula: there is no tail.

This genus, in a manner, connects the Inſect and Amphibious tribe; many characters of the generality of Serpents being wanting in this, and much of the ſtructure of the ſofter inſects appearing in it.

Cæcilia rugis centum et triginta quinque.
The Cæcilia, with a hundred and thirty-five rugæ.

This is a very ſingular and extraordinary animal; it never grows to any very great ſize: it's colour is a duſky brown, ſomewhat paler on the belly than on the back, and it's thickneſs not great in proportion to it's length; the back is ſmooth, and has a fleſhy appearance; the belly is ſtill ſofter, but at the ſides there are frequent wrinkles, which form a number of undulated lines or furrows, making a kind of indentings: the head is ſomewhat flat, and approaches to an oval form; the extremity is pointed and thin, being formed only of the prominence of the upper jaw; there are two ſhort and ſlender tentacula on it.

It is frequent in New Spain, and has been met with about the ſettlement of the Dutch at Surinam.

Cæcilia rugis profundioribus nonaginta et octo.
The Cæcilia, with ninety-eight deeper rugæ.

This is a ſmall ſpecies, but is very ſingular in it's figure: it's body is ſomewhat flatted; the back appearing depreſſed, the belly but little prominent, and the ſides rounded; the head is alſo depreſſed, but is ſhort, and almoſt rounded; the upper lip hangs over the jaws all the way round the opening of the mouth, and has two ſhort, ſomewhat thick, and truncated tentacula growing to it: the oppoſite extremity of the animal does not go off into a tail, but is, as it were, truncated and obtuſe: the colour of the whole animal is a pale brown, with ſome ſlight admixture of tawny in it: the belly is a little paler than the back: there are no ſcales, nor any other armature on it, only a tough ſkin, which is tolerably ſmooth on the back and belly, but has a number of deep, oblique furrows, forming ſo many wrinkles at the ſides: it moves but languidly; it's food is worms, and other ſmall inſects, and young frogs.

It is frequent in many parts of New Spain.

Cæcilia rugis numeroſiſſimis, capite anguſtiore.
The Cæcilia, with very numerous rugæ, and a narrow head.

This grows to about fifteen inches in length: the head is ſmall, narrow, and ſomewhat depreſſed; the upper lip is prominent beyond the reſt of the mouth, and forms at the extremity a kind of point: the tentacula are very ſhort, but thick and truncated: the body is rounded; the back very convex, and the belly flatted but little: the hinder extremity is truncated, and gives no appearance at all of a tail: the colour of the whole animal is a duſky livid-blue, with an admixture of grey and of black; it is paleſt on the underſide: the back and belly are almoſt ſmooth, but the ſides have a vaſt number of ſlight wrinkles, which run almoſt ſtraight up toward the back; they are deepeſt and plaineſt toward the middle, and grow ſo faint toward the extremities, particularly toward the head, that they are not eaſily counted. I counted more than an hundred and forty of them, on a ſpecimen preſerved in ſpirits, the only one I have ſeen. I purchaſed this among the others of the late Duke of Richmond's Muſæum, and remember it's having been ſent, about ſix years ago, to his Grace from Georgia.

There is but one other known ſpecies, the black, ſhort Cæcilia, with eighty-two rugæ.

AMPHISBÆNA.

THE body of the Amphiſbæna has a number of circular annuli, ſurrounding it from the head to the extremity of the tail; ſo that it ſeems compoſed of a number of narrow and ſomewhat rounded rings, applied cloſe to one another, and having deep furrows between them.

Amphiſbæna annulis corporis ducentis et viginti ſex, caudæ ſedecim.
The Amphiſbæna, with two hundred and twenty-ſix annules on the body, and ſixteen on the tail.

This is a very ſingular and extraordinary Serpent, and has at firſt ſight much of the appearance of a monſtrous earth-worm: it's length, when full grown, is two feet and a half; it's thickneſs is very conſiderable, the diameter being more than an inch: the body is almoſt round, only that the belly is a little flatted, as is alſo the back, but very ſlightly, as it approaches the tail; the ſides are as it were inflated: the head is obtuſely triangular, broad, flatted at the baſe, and continued thence to a ſomewhat obtuſe point at the extremity: the mouth is large, and the upper jaw ſomewhat hangs over the other; the whole head is covered with a firm, whitiſh ſkin, with a ſlight tinge of a yellowiſh-brown, and has ſeveral irregular, tranſverſe, and oblique furrows on it both above and below: immediately behind the head begin the annules or rings of the body; but the two or three firſt of them are obliterated on the upper ſurface, ſo that they are moſt diſtinctly counted on the belly: the colour is a

very pale brown, with a faint admixture of a reddiſh tawny on the back: the ſides are paler, and the belly is very pale, and almoſt whitiſh. The whole body is formed, as it were, of rings connected ſideways to one another; they are rounded, and about equal to the diameter of a ſtraw; they have nothing of a ſcaly appearance, but are covered with a firm and tough ſkin, and their ſurface is ſmooth; but they have oblique furrows all round them, at about a quarter of an inch diſtance, and cruciform ones at the ſides: the aperture of the anus is very large, and is placed within leſs than two inches of the extremity of the body; from this to the extremity of the tail there are ſixteen rings: the tail does not terminate in a point, but has an obtuſe extremity, much reſembling a head, but ſmaller and leſs pointed than the real head: it is of the bigneſs of the end of a large finger, and has none of the rugæ or wrinkles on it that cover the reſt of the body, but is covered with the ſame kind of firm ſkin that inveſts the head, but on this part it has no wrinkles or furrows of any kind.

The ſpecimen, from which I have formed this deſcription, I met with among the other Serpents which I purchaſed at the ſale of the late Duke of Richmond's Muſæum. It is a native of Surinam.

Amphiſbæna annulis corporis centum et nonaginta, caudæ viginti duo.
The Amphiſbæna, with a hundred and ninety rings on the body, and twenty-two on the tail.

This is a Serpent of an extreamly different form from the former; it's length is more than two feet, and it's thickneſs not more than that of a man's finger: the back and belly are both ſomewhat flatted; the belly very much ſo, but the ſides are round and inflated, as in the other: the colour is a deep, diſagreeable brown, with an admixture of orange colour toward the ſides: the belly is of a pale brown; the head is large, flatted, and obtuſe; it is covered with a very firm membrane, on which there are a few irregular furrows: the tail is thick and obtuſe, and it's extremity is of the bigneſs and form of the head, and is covered with the ſame kind of ſkin, wrinkled in the ſame manner: they are both of a colour, much paler than the reſt of the body; and, as the creature lies at it's length, it is not eaſy to ſay which is the head, which the tail: the whole body is compoſed of annules or rings, as it were, joined ſide to ſide; they are nearly of the breadth of a ſtraw, and are ſomewhat flatted.

It is a native of Peru and Mexico, and of ſome parts of the Eaſt Indies; in which laſt part of the world it has obtained, among the Engliſh, the name of the two-headed worm.

Amphiſbæna annulis corporis centum et octoginta duo, caudæ triginta.
The Amphiſbæna, with the annules of the body a hundred and eighty-two, and thoſe of the tail thirty.

This grows to more than two feet in length, and to the thickneſs of a man's finger: it's body is rounded, the back very convex, and the belly ſcarce at all flatted; the ſides inflated and prominent: the colour is a deep, livid, greyiſh-blue, with ſome cloudings and variegations of a deep black; the belly is bluer and paler than the reſt: the head is of a figure approaching to the half of an elliptic; it is oblong, but obtuſe and rounded at the extremity: the upper jaw all the way over hangs the lower, and the opening of the mouth is very large; the whole head is covered with a ſmooth and gloſſy membrane, having the appearance of a thick parchment, with a few oblique and not very deep furrows on it: the rings of which the body is compoſed are rounded, and of the breadth of a ſmall ſtraw; they have oblique lines, at ſmall diſtances on them, and cruciform ones all down the ſides: the extremity of the tail is ſomewhat ſmaller, and more rounded than the head, but it much reſembles it in ſhape; it is obtuſe, and is covered with the ſame ſmooth ſkin that inveſts the head, but it has no wrinkles on it.

This ſpecies is a native of Surinam, and of ſome other of the warmer parts of America. I met with it among the Duke of Richmond's collection; his Grace had it from Carolina.

The other known ſpecies of the Amphiſbæna are, 1. The great, brown Amphiſbæna, with a flat head. 2. The leſſer, brown Amphiſbæna, with the head and tail both rounded, and extreamly alike in form. 3. The ſlender, bluiſh Amphiſbæna.

4. The

4. The ſlender, variegated Amphiſbæna, with a ſmall head. 5. The thicker, variegated Amphiſbæna. 6. The great, livid, and black Amphiſbæna. 7. The larger, ſmooth, and flat-headed Amphiſbæna. Moſt of theſe are the produce of the warmer parts of America, and have not yet been deſcribed or mentioned by any of the authors, who have written on theſe ſubjects.

ANGUIS.

THE under parts of the body and of the tail of the anguis are both covered all over with ſquammæ or ſcales, without any ſcuta.

Anguis ſquammis abdominalibus centum & triginta quinque, caudalibus æquinumeris.
The Anguis, with the ſquammæ of the abdomen a hundred and thirty-five, and thoſe of the tail the ſame number.

The Slow-Worm.

This is a ſmall ſpecies, and, of all the European Serpents, has leaſt the appearance of one: it grows to about a foot in length, and to the thickneſs of a man's little finger, or hardly ſo much. It's colour is a deep, duſky, greyiſh-brown on the back, and livid on the belly: the ſcales are ſmall and compact; the head is ſmall, and of a form approaching to triangular, but obtuſely pointed, ſomewhat flatted, and of a paler colour than the body: the tail is obtuſe; the opening of the mouth is but ſmall; the ſquammæ of the abdomen are ſmall but rigid, and the anus is at a very conſiderable diſtance from the extremity of the tail.

It is frequent with us in gardens and paſtures, where it lives principally under ground feeding on worms: all the writers on animals have deſcribed it. Ray calls it Cæcilia, Typhlinus Græcis; and others, Typhlos and Cæcilia.

Anguis ſquammis abdominalibus centum & viginti, caudalibus octodecim.
The Anguis, with the ſquammæ of the abdomen a hundred and twenty, thoſe of the tail eighteen.

This is a ſmall ſpecies: it grows to about fourteen inches long, and to the thickneſs of a man's little finger: the colour is a duſky bluiſh-grey on the back, and a deep, ſhining, iron-grey on the belly, the head is large and flatted; the opening of the mouth wide, and the whole head covered with a grey ſkin, of the firmneſs of parchment, with a few oblique and irregular furrows on it: the tail is ſmall, and terminates in a point: the whole ſurface of the back, is covered with very ſmall and compact ſcales: the anus is ſituated greatly nearer the tail than in the former ſpecies, and is very large.

This is a native of the warmer parts of America.

Anguis ſquammis abdominalibus ducentis quinque, caudalibus triginta octo.
The Anguis, with the ſquammæ of the abdomen two-hundred and five, and thoſe of the tail thirty-eight.

This grows to two feet in length, but is ſlender, ſeldom much exceeding the thickneſs of a man's little finger: it's colour is a duſky-grey, with ſome variegations of a paler colour on the back; and the belly is of a deep, or almoſt black, hue, very bright and gloſſy: the head is large, and of a kind of oval form, obtuſely pointed at the extremity, and carried in form of a ſegment of a circle to the beginning of the back: it is elevated and convex, eſpecially on the hinder part, and is covered all over with a tough and firm ſkin, of a bluiſh-grey colour, ſomewhat gloſſy, and marked with a few furrows, dividing it into ſpaces of an irregular figure: the tail is ſmaller than other part of the body, but it terminates obtuſely, not in a point: the ſcales are ſmall, of an oval figure, and ſit very cloſe and firm together.

It is frequent on the iſland of Borneo, and in ſome other parts of the Eaſt Indies.

The other ſpecies are, 1. The little brown Anguis, with a pointed tail. 2. The little grey Anguis, with a very ſmall mouth, and an obtuſe tail. 3. The larger, va-

riegated Anguis, with obtuſe, elliptic ſcales. 4. The grey and yellow Anguis, with larger ſcales. 5. The ſmall ſcalled Anguis, called Scytale. 6. The long and ſlender, variegated Anguis, with a broad, flat head. 7. The large, variegated Anguis, with the head very convex, and pointed at the extremity. 8. The larger, brown Anguis, with a black belly. 9. The larger grey and white Anguis, with an obtuſe tail. 10. The little grey Anguis, with the back and belly of the ſame colour. 11. The grey, American Anguis, with very ſmall ſcales.

COLUBER.

THE abdomen, or under part of the body, of the Coluber is covered with ſcuta, and the under part of the tail with ſquammæ or ſcales.

Coluber ſcutis abdominalibus centum & ſeptuaginta ſeptem, ſquammis caudæ octaginta quinque.
The Coluber, with the ſcuta of the abdomen a hundred and ſeventy-ſeven, and the ſquammæ of the tail eighty-five.

The Necklace-ſnake.

This is a very ſingular and very beautiful ſpecies: it's back is of a plane, ſimple, blackiſh colour: it's belly of the ſame hue, but with an admixture of bluiſh and more gloſſy: the ſides of the belly are very elegantly variegated with regular ſeries of white ſpots, which ariſes from the ſcales being white at their edges in that part: the head is large and ſomewhat flatted: the opening of the mouth is large, and the teeth are arranged in a double ſeries, but they are all of a length: the throat is of a bright white; the ſides of the upper part of the head alſo are white, and have ſeveral beautiful black lines on them: behind the head, there is a fine chain, as it were, of a bright and beautiful yellow; this gives it the appearance of an ornament round it's neck, and occaſioned the Engliſh name of the Necklace-ſnake, and the Latin one of Torquata: the ſcales of the back have each of them an elevated ſtria, or ridge, along the middle: the noſtrils are not prominent: it grows to three feet in length, and to a moderate thickneſs in proportion, but it varies ſometimes very conſiderably in the colouring: the back, in ſome, is entirely black; in others, the ſcales which cover it are grey, and ſome of them only have black extremities, or tips: in ſome alſo, in the place of the circle behind the head, that part is convex and black, and has a large white ſpot in it.

It is frequənt with us, eſpecially about waters; it ſwims extreamly well, and, though it frequently does this with it's head above water, yet it will, at pleaſure, go altogether under the ſurface, and twiſt itſelf at leiſure about the ſtalks of the water plants, where it will remain a long time. Moſt of the writers on theſe ſubjects, have deſcribed it: Ray calls it Natrix torquata; others ſimply Serpens, Anguis, or Coluber.

Coluber ſcutis abdominalibus centum & quadraginta quinque, ſquammis caudæ triginta ſex.
The Coluber, with the ſcuta of the abdomen a hundred and forty-five, and the ſquammæ of the tail thirty-ſix.

The Viper.

This is the moſt poiſonous and miſchievous in it's bite, of all the European Serpents: it grows to near three feet in length, and to a conſiderable thickneſs in proportion: the principal, or ground, colour of the body is a duſky grey; all along the back, there runs a broad brown line, which is dentated on each ſide; and, on each ſide of this, there is a kind of continued bluiſh line, formed of a ſeries of ſpots of that colour, one of which is ſituated in the ſpace formed by every denticulation in the back line: the belly is of a bluiſh-black, very bright and gloſſy, reſembling the colour of high-poliſhed, ſanguined ſteel; and, when cloſely examined, there is found a ſmall dot of a deep black at the apex of every ſcale: the head is large and flattiſh; the throat is of a pale colour, and the mouth is large, and the edge of the upper lip is whitiſh: the iris of the eye is of a flame colour; the pupil black; and there is a blue ſpace, forming an acute angle, which ſeparates the head from the longitudinal line on the back: theſe are the general characters of the viper, but it's colours vary ſo extreamly, that there is no determining any thing with certainty from them: there often is a caſt of greeniſh in the grey, that is

the general colour, and ſometimes the whole body is of the colour of the belly, a fine, gloſſy, purpliſh-blue, very deep, and approaching to black.

It is frequent under warm hedges, and on heaths: common ſallad-oil, applied externally, and at the ſame time ſwallowed internally, has been found to be a remedy for the miſchiefs occaſioned by it's bite; but, before this was publickly known, we have ſeldom met with any fatal conſequences from it's bite, tho' country labourers have often ſuffered it.

The other ſpecies of the Coluber are very numerous: they are, 1. The Coluber, with the ſcuta of the abdomen two-hundred and fifty, and the ſquammæ of the tail thirty-five, called the lemniſcata. 2. The Coluber, with the ſcuta of the abdomen two-hundred and nineteen, and the ſquammæ of the tail one-hundred and ten. 3. The *Ceneoatel*, or Coluber, with the ſcuta of the abdomen two-hundred and twenty, and the ſquammæ of the tail one-hundred and twenty-four. 4. The *Apachycoatl*, or Coluber, with the ſcuta of the abdomen two-hundred and ſeventeen, and the ſquammæ of the tail one-hundred and eight. 5. The *Petola*, or Coluber, with the ſcuta of the abdomen two-hundred and nine, and the ſquammæ of the tail ninety. 6. The Coluber, with the ſcuta of the abdomen one-hundred and ninety-ſix, and the ſquammæ of the tail ſixty-ſeven. 7. The *Naia*, or Coluber, with the ſcuta of the abdomen one-hundred and ninety-tree, and the ſquammæ of the tail ſixty. 8. The *Annulata*, or Coluber, with the ſcuta of the abdomen a hundred and ninety, and the ſquammæ of the tail ninety-eight. 9. The Anguis Æſculapii, with the ſcuta of the abdomen one-hundred and ninety, and the ſquammæ of the tail forty-two. 10. The Coluber, with the ſcuta of the abdomen one-hundred and eighty-four, and the ſquammæ of the tail fifty. 11. The *Sibon*, or Coluber, with the ſcuta of the abdomen one-hundred and eighty, and the ſquammæ of the tail eighty-five. 12. The Coluber, with the ſcuta of the abdomen one-hundred and ſixty-five, and the ſquammæ of the tail twenty-four. 13. The *Ahætulla*, or Coluber, with the ſcuta of the abdomen one-hundred and ſixty-four, and the ſquammæ of the tail one-hundred and fifty. 14. The *Hippo*, or Coluber, with the ſcuta of the abdomen one-hundred and ſixty, and the ſquammæ of the tail one-hundred. 15. The Coluber, with the ſcuta of the abdomen one-hundred and fifty-five, and the ſquammæ of the tail ninety-four. 16. The Coluber, with the ſcuta of the abdomen one-hundred and fifty-two, and the ſquammæ of the tail one-hundred and thirty-nine. 17. The *Cobella*, or Coluber, with the ſcuta of the abdomen one-hundred and fifty, and the ſquammæ of the tail fifty-four. 18. The *Æſping*, or Coluber, with the ſcuta of the abdomen one-hundred and fifty, and the ſquammæ of the tail thirty-four. 19. The Coluber, with the ſcuta of the abdomen one-hundred and forty-two, and the ſquammæ of the tail ſeventy-four. 20. The *Ammodytes*, or Coluber, with the ſcuta of the abdomen one-hundred and forty-two, and the ſquammæ of the tail thirty-two. 21. The Coluber, with the ſcuta of the abdomen one-hundred and twenty-eight, and the ſquammæ of the tail forty-ſix. 22. The Coluber, with the ſcuta of the abdomen one-hundred and twenty-four, and the ſquammæ of the tail ſixty. 23. The *Cyaneus*, or Coluber, with the ſcuta of the abdomen one-hundred and nineteen, and the ſquammæ of the tail one-hundred and ten. 24. The Coluber, with the ſcuta of the abdomen one-hundred and eighteen, and the ſquammæ of the tail ſixty-one.

To theſe we are to add a number of others, whoſe ſcuta and ſquammæ have not yet been counted, but which may be ſtill diſtinguiſhed by expreſſive names, 25. The brown Coluber, with the black and yellow belly, called the Water-viper. 26. The thick and ſhort, flat and broad-headed, black Coluber. 27. The deep brown, large Coluber, with large ſcales. 28. The brown Coluber, with the reddiſh belly, called the Copper-bellied Snake. 29. The extreamly long and ſlender Coluber, with the back of a bright green, and the belly blue. 30. The large greyiſh-black Coluber, with the ſcales oblong and pointed. 31. The little, very ſlender, brown Coluber, with tranſverſe broad ſtreaks of blackiſh on the back. 32. The very long and ſlender, brown Coluber, with two longitudinal lines of yellow on the back, and with a bluiſh-grey belly. 33. The long and ſlender Coluber, with the back of a pale olive, ſpotted with black, and the belly of a greyiſh-blue, ſpotted in the ſame manner. 34. The large bluiſh Coluber, with annular marks, and ſome irregular ſpots of yellow, called the Chain-ſnake. 35. The greeniſh Coluber, with a bright ridge on the back, and with ſeveral black ſpots along the ſides. 36. The very long and ſlender Coluber, all over of a brown colour, called the Coachwhip-ſnake. 37. The red Coluber, variegated with fleſh colour and brown, called the Corn-ſnake. 38. The thick and ſhort Coluber,

of a pale brown, with large black ſpots, called the Hog-noſed-ſnake. 39. The very long and ſlender Coluber, all over of a fine graſs-green. 40. The entirely blue Coluber, with undulated, deep blue ſcuta on the belly, called the Wampum-ſnake. 41. The brown Coluber, variegated with large and elegant ſpots of a coral red, and a pale yellow, called the Bead-ſnake. 42. The great Coluber, with the neck broad, and ſwelled out behind. 43. The very large Coluber, with a thick neck and ſmall head. 44. The long Coluber, with a very fine pointed tail.

CENCHRIS.

IN the Cenchris there are ſcuta which cover the whole under part of the body, and of the tail: the head alſo is covered with ſmall ſquammæ, and the tail has no appendage.

Cenchris ſcutis abdominalibus ducentis quadraginta, ſcutis caudæ ſexaginta quatuor.
The Cenchris, with the ſcuta of the abdomen two-hundred and forty, thoſe of the tail ſixty.

The Botguacu.

This is the largeſt of all the Serpent kind; we have ſkins of it, in ſome of our muſæums, of five and twenty feet in length, and are aſſured from the people who have ſeen it, that it grows to between thirty and forty: it's thickneſs is proportioned to it's length: it's head is large, and the opening of it's mouth extreamly wide: the whole head, from the extremity of the noſe to the joining with the back, is covered with a peculiar kind of ſcales, much ſmaller than thoſe of the reſt of the body.

It is a native of the Eaſt Indies, and has been met with in the ſouthern parts of America: it will ſeize on very large animals as it's prey, and firſt break their bones, by twiſting it's body round them, and afterwards ſuck them down whole. It frequently lies in ambuſh on trees, from whence it throws itſelf down on any thing that comes within reach.

Cenchris ſcutis abdominalibus centum & nonaginta, caudæ quinquaginta duo.
The Cenchris, with the ſcuta of the abdomen a hundred and ninety, thoſe of the tail fifty-two.

This is a very large Serpent, though inferior to the former in ſize: it grows to fifteen feet or more in length, and is very beautifully variegated in colour: the principal, or ground, colour is a pale olive, with an admixture of green: this is ſpotted with large and irregular blotches of yellow; and there runs an undulated line of a duſkier colour, approaching to black, down the back: the belly is of a bright and ſhining black: the tail is ſhort and obtuſe; the head is covered with ſmall pointed ſcales, of a pale olive colour, which have their extremities a little erect.

It is met with in the woods of the ſouthern parts of America, and ſometimes comes into the huts of the natives, but is not miſchievous: It feeds on the ſmall animals.

Cenchris ſcutis abdominalibus ducentis et viginti quatuor, caudæ ſeptuaginta octo.
The Cenchris, with the ſcuta of the abdomen two hundred and twenty-four, thoſe of the tail twenty-eight.

This alſo is a very large, but not a miſchievous, Serpent; it grows to twelve or fourteen feet long, and to the thickneſs of a man's leg: it's head is ſmall, in proportion to the body, but the opening of the mouth is very large: the ground colour is a duſky yellow, with an admixture of a greyiſh-green in it; this is variegated with a deep line, of a denticulated form down the back, and with ſome fainter lines by it's ſides, between which there are ſeveral large ſpots of a bright yellow, and ſome of a greeniſh-olive: the tail is obtuſe, and the head of a bright green, variegated or ſprinkled as

it were with grey; the little ſcales with which it is covered being of an oval form, but pointed ſo ſharply, as to be almoſt prickly; and the body of them being green, but this tip or point grey.

It is common to the Eaſt Indies, and to the warmer parts of America: there were lately ſeveral of theſe diſcovered among ſome American timber, brought over for the uſe of our cabinet-makers.

CROTALOPHORUS.

THE Crotalophorus has ſcuta covering the whole under ſurface of the body and tail: and the extremity of the body is terminated by a kind of rattle, formed of a ſeries of urceolated articulations, which are moveable, and make a noiſe, when ſhaken.

Crotalophorus ſcutis abdominalibus centum et ſeptuaginta duo, caudæ viginti uno.

The Crotalophorus, with the ſcuta of the abdomen a hundred and twenty-two, of the tail twenty-one.

The Rattle-ſnake.

This is a very terrible, and, at it's full growth, a very large Serpent: it grows to eight feet in length, with a proportionable thickneſs, and, when of this ſize, weighs about nine pounds: the head is large, broad, depreſſed, and of a pale brown: the iris of the eye is red; the back is of a brown colour, with an admixture of a ruddy yellow, and is variegated with a great many irregular tranſverſe liſts of a deep black: the belly is of a pale greyiſh-blue; the rattle is of a firm, and, as it were, horny ſubſtance, and brown colour, and is compoſed of a number of cells, which are articulated one within another: the point of the firſt goes to a conſiderable depth into the ſecond, and ſo on of all the reſt; and, the articulation being very looſe, theſe included points ſtrike againſt the inner ſurface of the rings they are admitted into, and make that rattling noiſe, when the creature vibrates or ſhakes it's tail.

It is too frequent in the woods in the ſouthern parts of America, and ſometimes, though rarely, comes into the huts of the natives, and the houſes of the Europeans ſettled there: the bite is fatal, but it is eaſy to avoid it: the ſnake is ſluggiſh, and moves ſlowly, and never attacks a man, unleſs provoked; and, when diſturbed or injured, they generally give notice, before they bite, by ſhaking their rattle: when a large Serpent of this kind bites with it's full force in a fleſhy part, death is the conſequence in two minutes: ſlighter bites, and from ſmaller rattle-ſnakes, are ſometimes ſurvived. The colour of this ſpecies is not certain or determinate; it is ſometimes deeper, ſometimes paler, and often has a caſt of greeniſh, ſo as to be a kind of olive: the creature frequently alſo caſts it's ſkin, and always is of a different colour from the uſual one, when it firſt appears in it's new one, till the airchanges that to the ſame colour with the former.

Crotalophorus ſcutis abdominalibus centum et ſexaginta quinque, caudæ viginti octo.

The Crotalophorus, with the ſcuta of the abdomen a hundred and ſixty-five, of the tail twenty-eight.

The leſſer Rattle-ſnake.

This is an extreamly beautiful, though very miſchievous, Serpent, it's bite being no leſs fatal than that of the common rattle-ſnake, when of the ſame ſize: it grows to about four feet in length, and to an inch and a half in diameter: it's head is very large, broad, and depreſſed, and it's neck ſmall and ſlender; the opening of the mouth is very wide; the body is thickeſt about the middle, and from thence grows gradually taper again toward the tail, at the extremity of which is placed a rattle exactly like that of the former ſpecies, only ſmaller: the general colour of the back of this ſpecies is a pale dirty brown, with ſome faint admixture of grey; it is variegated in a very beautiful manner, with clouds of a duſky reddiſh, and with large, irregular ſpots, of a deep black: the belly is of a deep and gloſſy blue.

It is leſs frequent in America than the former, or ordinary rattle-ſnake; but it is ſometimes found in the very houſes of the inhabitants.

The European remedy of oil of olives, rubbed on the wounded part over burning charcoal, has been tried to the bite of this Serpent in America with ſucceſs, particularly, laſt year, to a wound in the foot of a woman; but as we have inſtances of people there, who have ſurvived it's bite, and even that of the other under favourable circumſtances, without any aſſiſtance, it is hard to ſay exactly how much may have been owing to the remedy. The French were at the pains, ſoon after the efficacy of the oil was publiſhed in England, to make a great number of experiments on animals bitten by vipers, ſome of which were dreſſed with the oil, others not; but the reſult did not argue much in favour of the remedy.

Amphibious Animals.

Series the Second.

Thoſe which have legs.

The number of legs in theſe is invariably four, but they are very differently formed and ſituated, ſo as in the ſeveral genera to ſerve to very different purpoſes.

LACERTA.

THE body of the Lacerta is oblong and rounded; the legs are four, and the hinder part is terminated by a tail.

Lacerta pedibus inermibus fiſſis, manibus tetradactylis, plantis pentadactylis, cauda ancipiti.

The two-edged-tailed Lacerta, with four toes on the anterior, and five on the hinder feet.

The Water Newt.

This grows to about four inches in length, and to the thickneſs of a man's finger: the back is of a deep ſhining brown; the belly of a bright and gloſſy yellow, and ſometimes whitiſh, always ſpotted irregularly with brown: the head is ſmall, and the extremity of the noſe obtuſe; the tail is compreſſed and flatted, and has two edges which ſtand perpendicularly, not horizontally: in the male, the back and the tail are both dentated; in the female, they are ſmooth: the throat in the male is variegated with duſky ſpots; the parts of generation in both are prominent: the legs are ſhort and lateral; the fore ones are divided into four, the hinder into five toes; and, in the male of this ſpecies, the toes are edged with a membrane.

It is very common with us in fiſh-ponds, and other ſtanding waters, and is voraciouſly eaten by the ducks and other water-fowl. All the writers on animals have deſcribed it under the names of Lacerta aquatica and Salamandra aquatica.

Lacerta cauda ancipiti, pedibus triangulatis, palmis tetradactylis, plantis pentadactylis palmatis.

The edged-tailed Lacerta, with triangular feet, the anterior with four toes, the poſterior with five.

The Crocodile.

This is the largeſt of all the Lizard kind, to which, notwithſtanding this ſtrange diſproportion in ſize, it evidently belongs. It grows to twenty-five feet in length, and it's thickneſs is that of a man's body: it's colour is a duſky and a diſagreeable brown; it's head is large, it's eyes are ſmall, and the opening of the mouth is vaſtly wide: the back is elevated into a ridge, which is continued to the extremity of the tail, and is deeply dentated; the lower part of the tail has alſo it's ridge oppoſite to the other, which gives it a two-edged appearance: the legs are ſhort and thick, and the fore feet have only four toes each, the hinder ones five.

It

It is produced in greateſt abundance in the torrid Zone, and fourteen degrees more north; they are frequent in America, to the latitude of 33, but are rare beyond this; and this nearly anſwers to the north of Africa, where they are always found in great numbers. They frequent ſalt-water rivers principally, but they are alſo found about the large freſh ones, and even about large lakes: they generally lie hid among the reeds and ruſhes, waiting quietly for the approach of men or animals, which they ſeize and drag into the water, always taking this method of drowning them firſt, that they may ſwallow them without trouble or reſiſtance: it's general food, however, is fiſh; but even theſe, as well as other animals, it is obliged to take by ſurprize, as it can, in purſuit, only run ſtraight forward; the joints of the back-bone being ſo ſtiff, that it turns but very ſlowly and difficultly: they lay a number of eggs, which are not larger than thoſe of a turkey; theſe they depoſit in the ſand, on the edges of rivers, and never are at any pains to take care of them afterward: the ſun's heat hatches the young, and they are no ſooner out of the ſhell, than they inſtantly get into the water, where they are a prey to all kinds of devourers, fiſh, fowl, &c. and are even ſwallowed in great numbers by their own ſpecies. In the colder of the countries they inhabit, they lie torpid all the winter in caverns, near the ſides of rivers. The hinder part of their belly and tail are eaten by the Indians and Africans; the fleſh is white, and of a kind of perfumed flavour. It has been deſcribed by all that have written on animals, under the names of Crocodilus and Lacertus maximus. We call it the Crocodile; and in thoſe countries where it does not grow to it's full dimenſions, as in the colder ones, the Alligator.

Lacerta cauda tereti longa pedibus pentadactylis, criſta gulæ dentata, ſutura dorſali denticulata.

The long and rounded-tailed Lacerta, with five toes to the foot, and the creſt of the throat and dorſal ſuture dentated.

The Guana.

This ſpecies of Lizard very much reſembles the crocodile in it's general form: it grows to five feet in length, though thoſe of two or three are much more frequently met with: the body is very large and rounded; the head is ſhort, the eyes are large, the creſt of the gula is dentated; and all down the back, and along one third of the tail, there runs a dentated and prominent line, formed, as it were, of a number of triangular, pointed ſpines: the tail is long and not compreſſed, but rounded; the legs are moderately long, and the toes are very long and ſlender; the mouth is armed with extreamly ſmall teeth in great numbers, and has a kind of bony beak, with which it bites very ſeverely; the colour is a duſky olive, with more or leſs of the green in it, and with ſome prominent veins of a paler hue ſeen through the ſkin.

It is a native of the hot countries; the woods about the tropics abound with it; it gets into hollow trees, or the crevices and leſſer caverns of rocks. They lay a great number of eggs, which are covered with a ſoft and flexible tough ſkin inſtead of a ſhell, and are left in the ſand to be hatched by the ſun's heat, without any farther care of the parent animal: they feed wholly on vegetables, and are themſelves an excellently well-taſted food; their eggs alſo are delicate: the natives of many parts of South America, in a great meaſure, live upon them: they have dogs that hunt them, and often kill them; they go out with theſe dogs on the expedition frequently: what are killed they eat as their proviſions for the time; what they take alive they ſew up the mouths of, to prevent their biting, and carry home: they are a ſlow animal, and make no uſe of their legs in ſwimming, only puſhing themſelves along by the tails: they are ſo impatient of cold, that they rarely appear out of their holes, unleſs in bright and ſun-ſhiny warm weather. Moſt of the authors who have written on theſe ſubjects have mentioned it; they call it Senembi, Guana, and Iguana.

Lacerta cauda tereti longa, pedibus pentadactylis, dorſo ſtriato.

The long and rounded-tailed Lizard, with five toes to the feet, and a ſtriated back.

The blue-tailed Lizard.

This is a ſmall but an extreamly beautiful ſpecies; it rarely grows to more than ſix inches in length, and is ſlender in proportion: the head is ſhort, broad, and tinged faintly with reddiſh; the body is of an olive brown, with four or five longitudinal lines of yellowiſh running from the head to the beginning of the tail: the tail itſelf is long, rounded, not flatted, and of a beautiful blue: the legs are ſhort, and the claws or toes long and ſlender.

It is a native of America, and is very frequent in many places: it is ſuppoſed to be poiſonous, but there does not ſeem to be any great foundation for this opinion.

The other ſpecies of the Lacerta are, 1. The common, brown, land Newt, or Lacerta. 2. The long-legged and thick-bodied, ſmall, green Lacerta. 3. The long and ſlender, beautiful, deep green Lacerta. 4. The very long-tailed, brown Lizard, called, from the fierceneſs of it's aſpect, the Lion Lizard. 5. The Lacerta, with the two-edged tail with the anterior feet with four divided toes, and the poſterior with five palmated ones, and the belly ſwelled: this is called the Rana piſcis, and is ſuppoſed to be produced by a change of a frog into a fiſh, though it neither is the one, nor ever was the other. 6. The Lacerta, with the tail verticillated with denticulated ſcales, and with five toes to the feet; this is called the Cordylus. 7. The Lacerta, with a verticillated tail, with the feet divided into five unguiculated claws, and the ſcales of the body ſquare. 8. The Lacerta, with a rounded, verticillate tail, with five unguiculated toes to each foot, called the common Lizard. 9. The Lacerta, with the rounded tail, and with only three toes to each foot, called the Chalcides. 10. The Lacerta, with a long, rounded tail, with muticous feet, with four toes on the anterior, and five on the poſterior. 11. The Lacerta, with a long and rounded tail, with five toes on the feet, and with the creſt of the gula and the ſummit of the back ſmooth, called the Principalis, and the ſmooth-backed Guana. 12. The Lacerta, with a long, rounded tail, with five toes on each foot, with the gula ſubcriſtated, and dentated in the anterior part, and with the back ſmooth, called the Marmorata. 13. The Lacerta, with a long, rounded tail, with five toes on each foot, the back denticulated on the anterior part, and with the hinder part of the head and the neck aculeated. 14. The Caletes, or Lacerta, with a long and rounded tail, and with five toes on each foot, with the back dentated on the anterior part, and the head denticulated behind. 15. The Ameira, or Lacerta, with a long, rounded tail, and five toes on each foot, with the abdomen covered with ſcuta, and with no creſt. 16. The Gecko, or Lacerta, with a rounded and moderately long tail, with five criſtated toes imbricated on their under part on each foot, and with the body verrucoſe, or covered with ſmall, rough protuberances. 17. The Barbara, or Lacerta, with a rounded and moderately long tail, with five toes on each foot, with ſmooth, round, greyiſh ſcales on the back, and brown ones at the ſides. 18. The Lacerta, with a rounded and ſhort tail, with fives toes on each foot, two or three of which grow together: this is the *Chamæleon*. 19. The Lacerta, with a ſhort and rounded tail, with unarmed feet, the anterior ones having four toes each, and the poſterior five. 20. The Teguixicon, or Lacerta, with a long and rounded tail, with five toes on the feet, with no creſt, but with plicated ſides. 21. The Lacerta, with a long, rounded tail, with five toes on the foot, and with a longitudinally ſtriated back. 22. The Lacerta, called by many the Tarantula. 23. The flying Lizard, called by many the Dragon.

The dragons figured and deſcribed by authors would come in this place, or follow the Lizard, if they had, indeed, any place in nature, but that is not the caſe; the love of talking of ſtrange things, in ſome writers, and the credulity of others, have given birth to theſe monſters of the vitiated fancy. Aldrovand has figured two dragons under the name of Hydræ; the one from Geſner, the other from his own fancy, each with two legs; and another ſtranger monſter, which he calls a Baſiliſk, with eight legs, with a body like a hog, the tail of a lizard, and the head of a bird of prey, with a crown on the ſummit of it: and Parey and others have added dragons with

with four legs, and dragons without any legs at all; ſome with wings, ſome without; ſome with ears, and one of Parey's, indeed, with horns. What we ſee under the names of dragons ſhewn at fairs, and even kept in the cabinets of ſome collectors, are in general formed by art out of the ray-fiſh; and the others, figured and deſcribed ſo pompouſly by theſe authors of general credit, have no better a foundation in nature.

RANA.

THE body of the Rana is broad and ſhort, and has no tail; the legs are four.

Rana manibus tetradactylis fiſſis, plantis pentadactylis palmatis, maxima.

The great Rana, with the anterior feet with four divided toes, the poſterior with five webbed ones.

The Bull-Frog.

This is the largeſt of all the Frog kind; when the limbs are extended, it meaſures near two feet: the body is often eight inches long, and four or five in breadth; the fore legs are ſmall, but the thighs of the hinder ones are as thick as a child's arm: the head is large; the opening of the mouth very wide; the eyes large and prominent; the pupil has a yellow circle round it; the iris is red, and there is another yellow circle at the verge of it: the ears are large, and of a circular form; they are ſituated ſideways of the eyes, and a little behind them, and are covered with a fine thin membrane: the colour is a duſky brown, with an admixture of green, ſpotted all over very thick with oblong, black ſpots: the belly is of a duſky whitiſh, with a caſt of yellow, and is alſo faintly ſpotted.

It is a native of the northern parts of America: in Virginia the ſides of the hills almoſt all produce ſprings; and near the mouths of theſe there are uſually found a pair of theſe frogs, which, when frighted, leap into the little baſin, uſually made by the ſpring near the opening: they leap to a ſurpriſing diſtance, and their croaking is ſo loud, that it reſembles the roaring of a bull, heard at ſome diſtance; 'tis hence they have obtained the name of the Bull-frog: they are very voracious, and frequently ſwallow young ducks, and other water-fowl, before they have ſtrength enough to ſhift for themſelves.

Rana palmis tetradactylis plantis pentadactylis, digitis ſummitate excavatis.

The Rana, with four toes on the anterior, and five on the poſterior, and all hollow at the end.

The Tree-frog.

This is a very extraordinary ſpecies of frog; the name of a Tree-frog has an odd ſound, yet this kind is never found hardly off of trees, and is formed by nature for living very eaſily on them: it's body is about an inch and a half long, and three quarters of an inch in diameter, ſomewhat rounded, and the back in particular very convex: it is of a beautiful bright and gloſſy green, but has on each ſide a longitudinal ſtreak of yellow; all the other parts are of the ſame bright green with the body, without any variegation; the head is obtuſely pointed; the eyes are large, black, and gloſſy; they ſtand prominent, and have a yellow circle round them: the legs are ſlender, the hinder ones conſiderably long: the toes are of a very peculiar form and ſtructure; they are rounded and hollow, opening at the extremities, in the manner of the mouth of a leech: 'tis by means of this peculiar mechaniſm, in this part, that they are able to hold their place on the leaves, and they are ſo well conſtructed for this, that they will inſtantly faſten the animal on a plate of a glaſs, or of the moſt highly poliſhed metal: the creature leaps very nimbly, and to a vaſt diſtance.

They are frequent in North America, and in ſome of the northern parts of Europe, particularly in Sweden: they live on trees and plants of various kinds, but particularly on thoſe which have large leaves; and their poſt uſually is on the under ſide of the leaf, where they are hid from the birds that otherwiſe would devour them: they are uſually quiet

quiet by day, but, as night comes on, they are ſeen inceſſantly hopping from branch to branch, and catching inſects. Moſt of the writers on animals have deſcribed this ſpecies. Linnæus calls it Rana viridis; Charleton, Johnſton, and others, Ranunculus viridis; and Geſner, Dryope es.

Rana dorſo pullifero.
The Rana, with the young coming from the back.

The Surinam Toad.

This is a large and moſt extreamly ſingular ſpecies; it's body is about four inches and a half long, and near three and a half broad: the head is large, and of a pyramidal form: the opening of the mouth very wide; the eyes are not very large, and ſtand forward on the head: the fore legs are ſlender, and not very long: the feet of them have each four toes, which are connected together; the hinder legs are very large, robuſt, and ſtrong, and much longer than the fore ones; they have five toes to each foot, connected together by a membrane or web: the colour of the whole animal is a deep duſky brown, variegated with irregular lines and ſtreaks of black, and with ſmall ſpots. The firſt appearance of the young is in this creature a very amazing circumſtance; the back of the female is found elevated in many places into little tubercles of an obtuſe form, and from theſe the young ones make their way very ſmall, but in their perfect form. This is worthy a very ſtrict attention, and it is much to be wiſhed, that ſome perſon of abilities may have an opportunity of examining thoroughly into it on the ſpot.

The ſlaves on the Surinam ſettlements eat this ſpecies, and eſteem it a very delicate food. Moſt of the late writers have named it under the title of the Surinam Toad, or Frog, and Pipa.

The other ſpecies of the Rana are, 1. The common Frog. 2. The green and yellow American Frog. 3. The large, brown American Frog. 4. The common Toad, or the great African grey Toad. 5. The little, brown Frog, with the extremities of the toes rounded. 6. The little Frog, with the joints of the toes protuberant. 7. The Rana, with the hinder feet ſubpalmated, and the pollex ſhort and broad. 8. The round-toed Rana, with the body narrow behind. 9. The Rana, with an obtuſe anus ſpotted on the under part. 10. The large, green, and yellow Eaſt Indian Frog.

TESTUDO.

THE Teſtudo has four legs, and it's body is covered with a firm ſhell.

Teſtudo unguibus acuminatis palmarum plantarumque quaternis.
The Teſtudo with, acuminated ungues, four on the hinder, as well as fore feet.

The Caret Tortoiſe, or Hawk's-bill Turtle.

This grows to two feet, or more, in length, and to nearly as much in diameter in the ſhell; the head and hinder legs protended, it meaſures conſiderably more, but it never arrives at the enormous ſize of ſome of the other ſpecies: the ſhell is of a figure approaching ſomewhat to oval, but hollowed in the form of a ſegment of a circle at the upper extremity, and terminated in a ſharp and even prickly point, when perfect, at the other: it's edges towards the top are ſmooth, but round; in the lower half, they are indented, and the ſerratures are deep, and the points ſharp and prickly: the whole ſhell is divided into a number of irregular ſpaces by ſeveral oblique and angulated lines, and is of a brown, with a tinge of reddiſh in it, variegated with ſpots and blotches of a duſky colour: the neck is oblong and thick; the head large, and of a ſomewhat oval form; the eyes are large, and the mouth formed, in ſome meaſure, like the beak of a bird of prey, the upper jaw falling over the other: the fore legs are longer than in any other known ſpecies, and the hinder ones are robuſt and broad; the whole is of the ſame kind of brown colour with the ſhell.

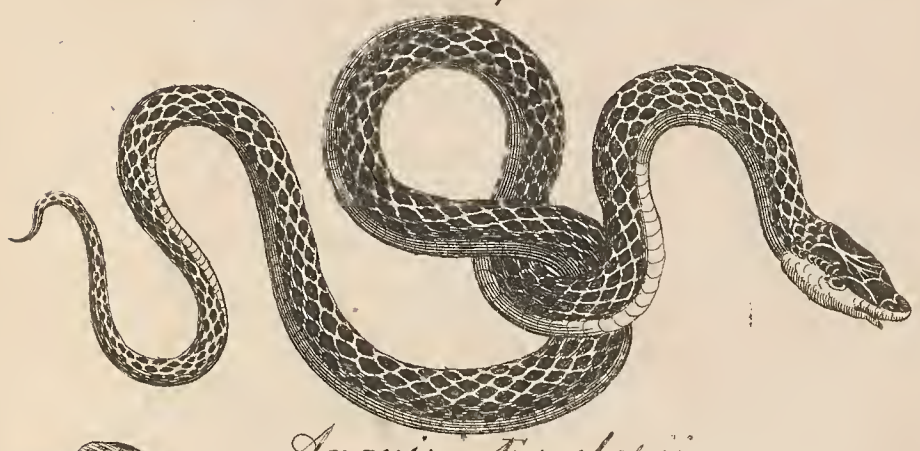
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Cœcilia Sp. 3



Amphisbæna Sp. 3



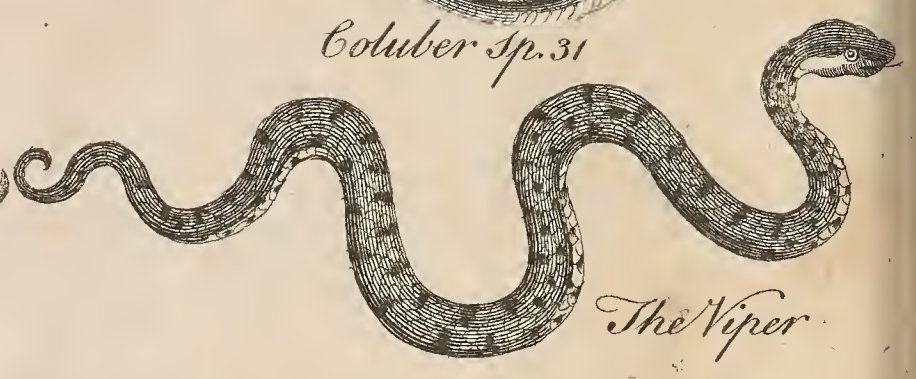
Anguis Æsculapii



Coluber Sp. 31



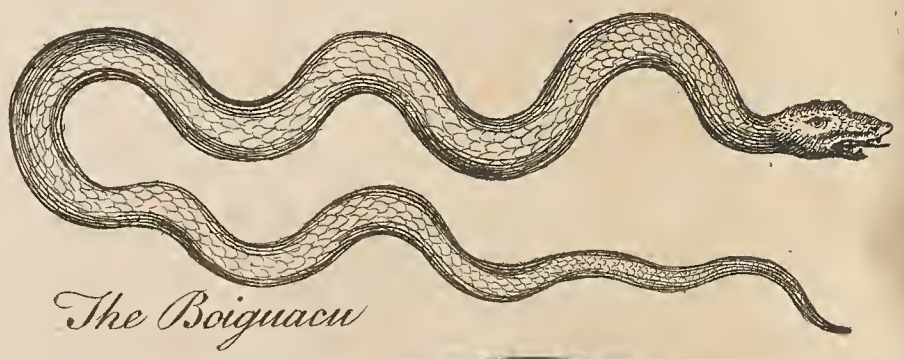
Coluber Sp. 29



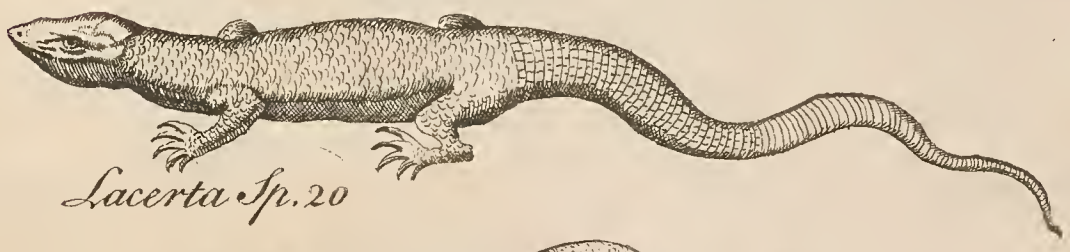
The Viper



Cenchris Sp. 3



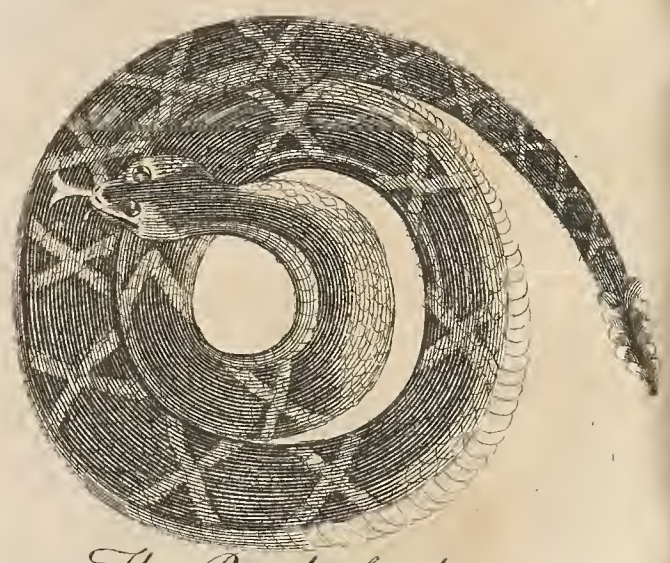
The Boiguacu



Lacerta Sp. 20



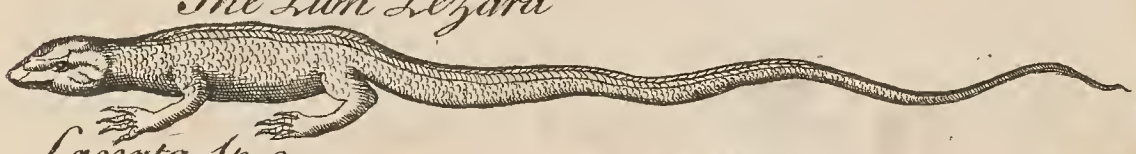
Lacerta Sp. 10



The Rattle Snake



The Lion Lezard



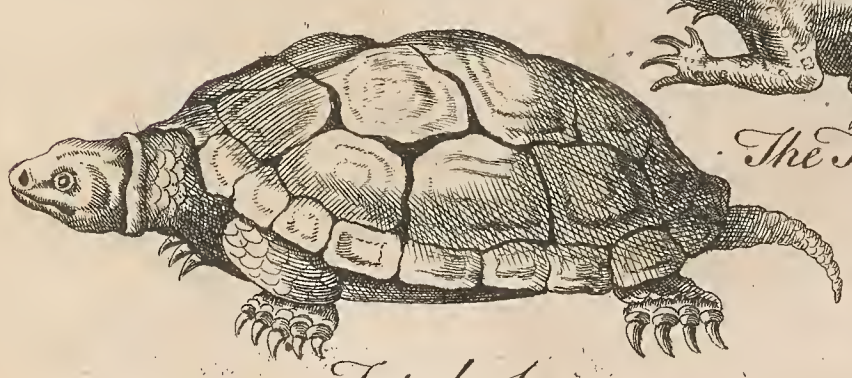
Lacerta Sp. 9



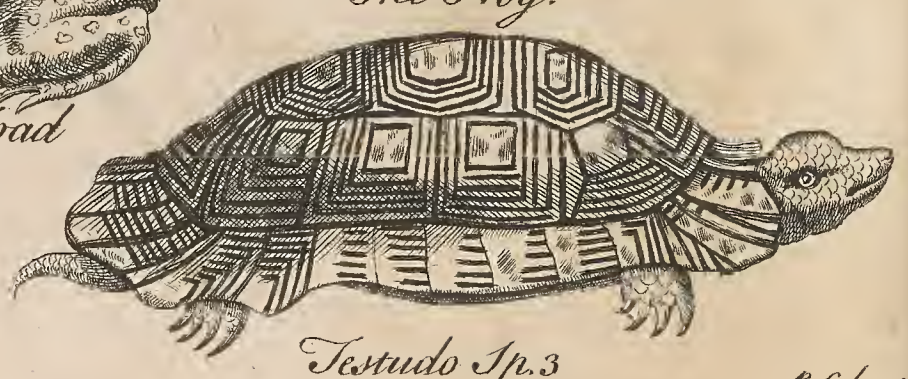
The Frog.



The Toad



Testudo Sp. 1



Testudo Sp. 3

B. Cole sculp.

This ſpecies is frequent in the American ſeas, and it's ſhell is that uſed in ornamental works, under the name of Tortoiſe-ſhell; authors call it Caretta. It's fleſh is well taſted, but is conſiderably inferior to that of ſome of the others.

Teſtudo unguibus palmarum duobus, plantarum unicis.
The Teſtudo, with two ungues on the fore feet, and one on the hinder.

The green Turtle.

The Engliſh name of this ſpecies might be apt to lead the unexperienced into the error of ſuppoſing the colour of the ſhell, or of the whole animal, green; but it is a Weſt Indian name given it, from the fat having a greeniſh appearance at table: it grows to a vaſt ſize; we had one lately dreſſed at a tavern in London, of four-hundred and eighty pounds weight: the ſhell is of a figure approaching to oval, lightly hollowed at the top, to give room for the motions of the neck; and dentated all round the ſides, but ſlightly, and at conſiderable diſtances. The hinder extremity is obtuſe; the colour is a duſky brown, ſhaded with a ſtill darker, and the whole ſurface is divided into a number of irregular ſpaces by oblique and angulated lines: the head is roundiſh; the opening of the mouth not very large; the fore legs are of a conſiderable length; the hinder ones ſhort and broad, and the colour of the whole a diſagreeable duſky brown.

This ſpecies is frequent about the American iſlands, but it breeds only in ſome few places: the fleſh is finely flavoured, and eſteemed the beſt of that of any kind; this is what we commonly in England mean by the word Turtle.

Teſtudo capite magno ſubovato.
The great oval-headed Teſtudo.

The logger-headed Turtle, or Caouanne Tortoiſe.

This is a ſpecies eaſily diſtinguiſhable at ſight from the others: it grows to a very conſiderable ſize; the ſhell is of a more regularly oval figure than that of any of the others; it is often two feet and a half long, and two feet broad near the top, whence it gradually grows ſmaller to the hinder extremity, where it terminates in an obtuſe point; it is of a duſky brown colour, variegated with a darker hue, and is divided into more regular ſpaces than that of any other kind: the head of the animal is remarkably large, and it has a great fierceneſs in it's aſpect: the legs are ſhort and broad, and the whole animal is of a duſky brown colour; this is the worſt taſted of all the kinds, and it's ſhell is of little value; whence it is ſuffered to live more at peace than any of the others, and conſequently is greatly more numerous.

It is a native of the Eaſt and Weſt Indies, and is the greateſt traveller of all the Tortoiſe kind: it has been found at open ſea, at vaſt diſtances from any land.

The other ſpecies are, 1. The Teſtudo arcuata, called the Trunk-turtle; and, by the French, Coffre. 2 The little land Teſtudo. 3. The great, thick, ſmall-headed Teſtudo.

The Americans find ſo good account in the taking of Turtle, that they have made themſelves very expert at it: they watch them from their neſts on ſhore in moon-light nights, and, before they reach the ſea, turn them on their backs, and leave them till morning: the creature can by no efforts recover it's firſt poſture, and conſequently they are ſure of finding as many as they have thus turned: at other times they hunt them in boats, with a peculiar kind of ſpear, ſtriking them with it through the ſhell, either as they lie on the ſurface of the water, or underneath it. When they have once got ſight of a Turtle, patience and attention ſeldom fail to make them ſure of it: the creature dives, as ſoon as it perceives itſelf purſued; but, as it muſt every now and then riſe to the ſurface for breath, they by this means know where it is: when tired with flying from them, it generally plunges to the bottom at once, where, if the water be not too deep for the length of the handle of the ſpear, they eaſily ſtrike it. The ſpear is of a very ſimple form, it is no more than a peg of iron, two or three inches long, faſtened to the end of a handle of ten or twelve feet in length, in the manner of the iron of the harpoon uſed in the whale-fiſhery: there is a cord faſtened to the iron, and, when the ſtroke is given, the head ſeparates eaſily from the handle; but, the cord remaining faſtened to it, the creature is managed by it with great eaſe, eſpecially if it have been firſt tired with the purſuit.

THE HISTORY OF ANIMALS.

PART III.

Of SHELL-FISH.

SHELL-FISH are animals with a ſoft body, covered by, or included in, a firm, hard, and, as it were, ſtony covering, compoſed of one or more parts, and more or leſs moveable at the animal's pleaſure.

The genera of the Shell-fiſh are extreamly numerous, and the ſpecies, under many of them, are alſo very much ſo. The animals, included in theſe hard, external caſes, have moſt of them the characters of one or other of the genera of the Gymnarthria before deſcribed, and might be reduced under the ſame genera with the naked ones; or the whole ſeries of Shell-fiſh might be arranged according to their characters; but as theſe characters are few, and the bodies themſelves very numerous; and as the external coverings or ſhells are extreamly different in their form and ſtructure, and theſe differences are ſufficiently obvious, determinate, and numerous; it will tend more to the making natural hiſtory an eaſy and an univerſal ſtudy, to arrange this part of it according to the differences of the ſhells themſelves, than thoſe of the included animals. There is this farther conſideration alſo in favour of this arrangement, that the bodies of the animals themſelves are very rarely ſeen, and never preſerved in collections, whereas the ſhells make an eminent figure in them; and that many of them have been only met with, empty of the included animal.

I ſhall not ſo far diſregard, indeed, the form and ſtructure of the included animal, as to leave the reader in the dark as to what it is; but, as all of the ſame genus are the ſame in this reſpect, it will be ſufficient barely to mention which of the former genera of Gymnarthria they belong to, after the generical characters of the ſhell. Thus I ſhall not omit to ſay, that the animal inhabiting the patella is a limax; that the animals inhabiting the ſeveral ſhells of the cochlea, the nerite, the buccinum, the turbo, the trochus, the voluta, the murex, the purpura, and the lyra, are all limaces alſo; and that the inhabitants of the concha Veneris and auris marina are all of the ſame genus: that the inhabitant of the dentalium is a Nereis, *that of the nautilus a* Sepia, *that of the oſtrea, the pecten, and the like, a* Tethys, *and that of the concha anatifera and balanus a* Triton.

The mention of this, at the head of the genus, will convey a ſufficient idea of what the animal is that inhabits the outer caſe, which is the object of our more immediate attention; and I flatter my ſelf, that it will appear much better to pay this ſecondary regard to the form of the body of the creature, than, for the ſake of arranging thoſe of the ſame ſtructure in the leſs obvious part together, to have brought into one genus the auris marina, the concha Venerea, the buccinum, the voluta, and the patella.

The

The Shell-fiſh, on this plan of arranging them according to their ſhells or coverings, not to the different ſtructure of the included animal, may be divided into three ſeries; the firſt containing thoſe formed of only one piece; theſe I ſhall call the ſimple ones; others have called them univalve ones, but the ſtructure of the ſhell is in many, by no means, referable to a valve. The ſecond ſeries containing thoſe which are formed of two parts or valves, under the name of bivalves; and the third, under the name of multivalves, comprehending thoſe whoſe ſhells are compoſed of ſeveral valves or parts.

SHELL-FISH.

Series the Firſt.

Simple Shells.

Thoſe which conſiſt only of one ſingle ſhell, and have no hinge.

PATELLA.

THE Patella is a ſimple ſhell of a conic, or other gibboſe, figure, with a very wide opening at the bottom; always applying itſelf firmly to ſome ſolid body, which ſerves it in the place of another ſhell: the animal inhabiting it is a limax.

The ſummit of the patella is in ſome acute, in others obtuſe; in ſome depreſſed, and in ſome it is perforated; and in others turned down, or otherwiſe crooked.

Patella vertice acuto, decem coſtis inſtructa.
The ſharp-topped Lepas, with ten ſtriæ.

The ſtriated Limpet.

This is a very beautiful ſpecies: the full grown ones are an inch broad at the mouth, and three quarters of an inch high; the baſe is not exactly rounded, but ſomewhat oblong, and the top ſharp or pointed: the colour of the outſide is a duſky brown, with a caſt of olive; it is elevated in ten places by ſo many ſmall ridges, placed at nearly equal diſtances, and is rough all over: the ſtriæ are moſt conſpicuous toward the mouth, and become fainter, as they approach the top; where they are obliterated, and the ſharp point, and a little of the ſhell below it, is ſmooth: the inſide of the ſhell is beautifully variegated with brown, yellow, and whitiſh, diſpoſed in the form of irregular circles, and in the whole ſhews a great general reſemblance of the auricula flowers.

It adheres very firmly to the rocks in many parts of the Eaſt Indies, and elſewhere.

Patella radiata coſtis ſeptenis, ſeptem aculeos ad oram efformantibus.
The radiated Patella, with ſeven ribs, forming ſeven prickles at the rim.

The ſtarry Limpet.

This is a very elegant and very ſingular ſpecies: it is but little elevated; it's mouth is of a figure approaching to elliptic, and it's baſe is about an inch long, and two thirds of an inch broad; it's ſummit is pointed, but the height is hardly half an inch, and the point does not riſe exactly in the center of the ſhell: on the outer ſurface there are ſeven very elevated ribs, placed at conſiderable and nearly equal diſtances; they run ſtrong and diſtinct to the very point of the ſummit, and are continued to the verge, where they run out each into a point beyond the reſt of the verge, and form ſo many prickly rays, with hollows in form of ſegments of circles between them: the colour on the outſide is whitiſh, variegated with clouds and ſpots of black, eſpecially about the ribs; within it is beautifully variegated.

It is found adhering to rocks about the iſlands of Sumatra, Borneo, and elſewhere, in the Eaſt Indies: it has been ſent alſo from ſome of the American ſhores, and ſome other places.

Patella

Patella glabra ſubovata vertice depreſſo.
The ſmooth, oval-mouthed Patella, with a depreſſed top.

The oval, ſmooth Limpet.

This is a large and beautiful ſpecies; it is at the baſe two inches and a half long, and near two inches broad at one extremity, whence it becomes gradually ſmaller to the other, where it is alſo obtuſe and rounded; it's height from the center of the baſe to the ſummit is about an inch and a quarter; the top is ſomewhat depreſſed, and ſtands nearer the largeſt end of the oval than the other: the rim is even, and the whole ſurface is ſmooth; the colour is a duſky whitiſh, elegantly marbled, and variegated with a deep and blackiſh clouding.

It is found adhering to the rocks on the ſhores of ſome of the warmer countries in Europe, but not on the Engliſh coaſt, ſo far as has been yet obſerved.

Patella concamerata roſtro in ſummitate curvato.
The concamerated Patella, with a crooked roſtrum on the ſummit.

The beaked Limpet.

This is a tall ſpecies; it's mouth is rounded, and the verge ſmooth and even; it's diameter is about an inch, and it's height nearly as much: the outer ſurface of the ſhell has no ridges, but has ſome roughneſſes diſpoſed irregularly all over it; it is bellied half way up, where it begins to form a roſtrum or head; this is ſomewhat pointed, and bends down: the inſide of the ſhell is concamerated, and the diviſion terminated by a kind of point; it is not very elegantly coloured, but this ſtructure is ſingular.

We have it from the ſhores of ſome of the American iſlands.

Patella concamerata roſtro ad extremitatem parvulo.
The concamerated Patella, with a ſhort roſtrum toward one end.

The chambered Limpet.

This is of an oblong or irregularly elliptic figure at the baſe; it's length at the mouth is about an inch and a quarter, it's breadth hardly half an inch; both ends are nearly equal in breadth, and the verge is ſomewhat undulated: about half the aperture from one end, which may be eſteemed the head, is covered by a thin cruſt or ſhell, connected to the end and along the ſides, but irregularly notched at the verge: the height of the ſhell is about half an inch; it's roſtrum or beak is ſhort, and ſeems only a kind of button; it does not ſtand in the center of the ſhell, but juſt at that end which we call the head, and near the verge of the ſhell. The whole outer ſurface is rough and warty, and the inner ſmooth, but neither very beautifully coloured.

We have it on ſome of the European ſhores.

Patella elliptica depreſſa vertice perforato.
The elliptic and depreſſed Patella, with the top perforated.

The great, oblong Limpet.

This is a large ſpecies; it's length at the baſe is near three inches; it's diameter an inch an half at the largeſt end, the other is a little ſmaller, but 'tis ſo little, as not to give it a title to the oval: the edge is ſmooth and even; the height of the ſhell is about an inch; it's ſurface is almoſt ſmooth, but there are a number of longitudinal rays, and ſome tranſverſe or circular ones alſo viſible on it: it's colour is a duſky brown, and it is thicker and more robuſt than many of the others: it's top is not much elevated, and is as it were cut off; an aperture or hole appearing there, which is of an oblong figure, and ſeems to be formed of two round ones joined together: the colour on the outſide is a duſky grey; within it is whitiſh, but with a few variegations.

We have it from the Eaſt Indies, and it is alſo common to ſome of the warmer parts of Europe.

After having deſcribed one of each of the more ſingular kinds of the Patellæ, the others, when arranged under the diviſions, mentioned in the generical character, will be eaſily diſtinguiſhed by their names. 1. Of the conic kind, with the pointed ſummit, beſide the firſt deſcribed ſpecies, there are, 1. The ſmooth, pyramidal, and mucronated Patella. 2. The pyramidal, deeply-furrowed Patella. 3. The ridged and circled, grey Patella. 4. The common brown Patella. 5. The ſmooth, tall, ſharp-pointed Patella. 6. The ſmooth Patella, with circular lines very fine, and at ſmall diſtances. 7. The low, but ſharp-pointed, Patella. 8. The oval-mouthed, ſharp-topped Patella. 9. The ſlightly, ſtriated Patella. 10. The highly ridged and dotted Patella, with an aculeated edge. 11. The high-ridged, but not dotted, rounder-mouthed Patella, with an aculeated edge. 12. The conic, circular-ridged Patella.

2. Of thoſe with an obtuſe or rounded top there are, 1. The large, rounded-mouthed Patella, with high and very numerous ridges, and lower between them with a very broad-rounded top, and a denticulated edge. 2. The ſmaller, obtuſe-topped Patella, with a few high ridges. 3. The obtuſe-topped, ſtriated Patella. 4. The obtuſe-topped, ſmooth Patella, with circular lines. 5. The obtuſe-topped Patella, with longitudinal and circular lines.

3. Of thoſe with depreſſed ſummits there are, beſide the deſcribed ſpecies, 1. The furrowed and marbled Patella. 2. The elliptic, fine-ſtriated Patella. 3. The round-mouthed Patella, with the top reſembling a nipple. 4. The depreſſed-topped Patella, with elevated ſtriæ, and with a dentated edge. 5. The depreſſed topped, finely ſtriated Patella, with a ſmooth and even edge. 6. The ſtriated and prickly Patella, with a depreſſed top. 7. The broad Patella, with a depreſſed top, called the tortoiſe-ſhell, ſhield Limpet. 8. The depreſſed-topped Patella, elegantly ſpotted with ſcarlet. 9. The depreſſed-topped Patella, radiated with white and red. 10. The circular-lined, elegantly variegated Patella, called the goat's eye Limpet. 11. The depreſſed-topped Patella, with the inſide of a fine bright red. 12. The depreſſed-topped and deeply ſtriated Patella, with an undulated edge.

4. Of thoſe which have the top formed into a kind of roſtrum and crooked, and are not concamerated within, there are, 1. The little, white, long-beaked Patella. 2. The round-mouthed, ſmooth, and long convoluted-beaked Patella. 3. The round-mouthed, ſhort-beaked, deeply-ſtriated Patella. 4. The long and obtuſe-pointed, beaked Patella, with an undulated edge. 5. The ſhort and obtuſe-beaked, faſciated Patella.

5. Of the concamerated kind, beſide the deſcribed ſpecies, there are, 1. The tall, ſmall, chambered Patella, of a whitiſh colour, and ſmooth ſurface. 2. The broad and low concamerated Patella, with a ſhort beak, and very deep ſtriæ. 3. The oblong or elliptic-mouthed Patella, with a large chamber. 4. The round, volutated-chambered Patella. 5. The elegant, Chineſe, concamerated Patella. 6. The tall Patella, with a ſtyle ariſing from the ſummit on the inſide. 7. The concamerated Patella, with the vertex irregularly elongated. 8. The depreſſed, ſemi-concamerated Patella. 9. The low, concamerated Patella, with a deeply ſinuated edge. 10. The ſtarry, edged, concamerated Patella.

6. Of thoſe which have the top perforated, beſide the deſcribed ſpecies, there are, 1. The elliptic Patella, with an elliptic large hole on the ſummit. 2. The deeply-furrowed, elliptic Patella, with an oblong and irregular perforation. 3. The low, conic Patella, with light, longitudinal, and circular lines, and with a ſmall, round perforation at the ſummit. 4. The very bright and rounded-ridged Patella, with an undulated mouth, and an oblong perforation, ſeeming to be formed of two round ones, conjoined. 5. The tall and deeply-ridged, oval Patella, with an oval, large perforation at the top. 6. The low and deeply-ridged Patella, with a ſmaller perforation. 7. The low, oval-mouthed, denticulated, ſharp-ridged Patella, with a ſmall perforation. 8. The low, circular-lined, and ſmooth-edged Patella, with a large, irregular, but roundiſh aperture. 9. The convoluted-beaked Patella, with a round perforation at the ſummit. 10. The elliptic, high-ridged Patella, with a double top, and a ſmall perforation in each. 11. The great, oval, ſmooth, whitiſh Patella, with a very ſmall, oblong perforation. 12. The great, oval, deep-lined Patella, with a large perforation. 13. The great elliptic Patella, with longitudinal and circular lines, and with a large perforation, ſeeming made up of two round ones.

HALIOTIS.

THE Haliotis is a ſimple ſhell without any hinge, and formed all of one piece, of a depreſſed figure, very patent at the mouth, having an approach to the ſpiral form at the ſummit, and having ſeveral perforations on the lateral part of the diſk. The animal inhabiting this ſhell is a limax.

It has obtained the name Auris marina, from it's reſemblance to the figure of an ear; ſome of the old writers, as Aldrovand and Rondeletius, have arranged it with the limpets, and called it Patella fera; and ſome others have called it Ormus. Liſter has arranged it among the turbinated ſhells, becauſe of the ſpiral turn at the ſummit; but this is by no means ſufficient to give it a place among thoſe ſhells.

Haliotis margine æquali, foraminibus ſeptem.
The Haliotis, with an even edge, and with ſeven holes.

The great Ear-ſhell.

This is a very large ſpecies; it's length is often five inches, it's breadth nearly three, but it's height, at the utmoſt, not more than three quarters of an inch: it's figure approaches irregularly to an oval; the end, where the ſpiral turn is placed, is the largeſt; the other a little ſmaller; the back or hinder edge is thick, and is turned ſo as to form a kind of lip; the other or anterior edge is thin, ſimple, and even: the upper ſurface of the ſhell is of a brown colour, rough and uneven, with a kind of undulated lines; the part toward the head is thickeſt, and the ſpiral turn ſhort and depreſſed: along the back part of the ſhell, near the thicker edge, there are placed a ſeries of holes or perforations, of a roundiſh figure; the number of thoſe which are open is ſeven; there are the marks or veſtiges of more toward the top of the ſhell, but they are cloſed up, and partly obliterated: as the ſhell grows in length, there are from time to time new holes formed in the extended part, and for every one of theſe there is one of the old ones filled up, or obliterated, the number nature allots to be open being only ſeven: the inſide of the ſhell is of a beautiful pearly hue, variegated with a great many bright and elegant colours, as viewed in different directions to the light; and, the outer coarſe cruſt of the upper ſurface being eaten off with acids, that exhibits the ſame pearly hue, with the ſame variety of colours: there are very frequently found a kind of roundiſh protuberances, in the form of warts, adhering to the inſide of the ſhell, which have much the appearance of pearls, and are ſometimes cut out by our workmen, and uſed in ornaments: real pearls are alſo ſometimes formed in this ſpecies.

It is frequent in moſt parts of the world; Europe and America both produce it, but it is no where ſo abundant as in the Eaſt Indies.

Haliotis anguſtior margine undulata, foraminibus octo.
The narrower Haliotis, with an undulated edge, and eight holes.

The long Ear-ſhell.

This is a very beautiful ſpecies: it grows to three inches in length, and not more than an inch and a quarter in breadth in the largeſt part; it's height is no where half an inch: the head is large and thick, and the ſpiral turn is very beautiful and fair; the back of the ſhell forms a regular and even lip, and the anterior edge is thin and undulated: the inſide of the whole ſhell is of a beautiful pearly hue, with fine variegations of colours; the outſide is ſmooth, but ſomewhat undulated from the ſpiral turn, and is of a greeniſh colour, variegated with a browniſh red: there is a long ſeries of holes on the back edge of the ſhell, and eight of them are always open; the others toward the head are cloſed.

It is found on the rocks on the Malabar coaſt, and is waſhed aſhore in ſome other parts of the Eaſt Indies; we have alſo had ſome very fine ones from the iſland of Ormus, in the Perſian Gulph.

Haliotis

Haliotis rugoſa foraminibus ſex.
The rugoſe Haliotis, with ſix holes.

The ſtriated Ear-ſhell.

This grows to three inches and a half in length, and to nearly two inches in diameter toward the head; the height is no where more than three quarters of an inch: the outſide of the ſhell is of a duſky brown, and is elevated into a number of ſlight and irregularly undulated ridges, which ſeem all to take their origin from the turn of the ſpiral end, though the eye can by no means trace them ſo far: the back is thick, and forms a kind of lip; the anterior edge is thin, and ſomewhat undulated; the hinder extremity is often more ſo: there is a long ſeries of holes near the back or thicker edge of the ſhell, but there are only ſix of them open: the inſide of this ſpecies is of a beautiful pearly blue, like the reſt, and there have been found real and fine looſe pearls in it.

It is found on the rocks about our own coaſts, and in moſt other parts of Europe, and is waſhed on the ſhores, in ſome places, in vaſt abundance.

The other ſpecies of Haliotis are, 1. The ſmooth, brown, large Haliotis, with ſeven holes. 2. The ſmooth, oblong, and narrow, reddiſh Haliotis, with ſeven holes. 3. The ſmooth, narrow, green Haliotis, with only ſix holes. 4. The ſmooth but undulated, green and brown Haliotis. 5. The ſcabrous, brown, oblong and narrow Haliotis. 6. The ſmaller, brown, oval Haliotis. 7. The greeniſh, oval Haliotis.

STOMATIA.

THE Stomatia is a ſimple ſhell without any hinge, and formed of one piece: it's figure is depreſſed and flat; it's mouth the moſt patent of all the ſhells, the limpet only excepted: it has a ſhort ſpiral turn running into the mouth at the head, and has no perforations in any part of the ſurface.

Authors have confounded this ſhell with the Auris mariana, or Haliotis; but with how much impropriety is evident, from the want of the perforations, which are the diſtinguiſhing character of that genus, and from the difference in the ſpiral turn of the ſhell.

The animal inhabiting this ſhell is a nereis; and in this alſo it differs from the haliotis, that and the patella being inhabited by a limax.

Stomatia ovata faſciis obſcurioribus.
The oval Stomatia, with almoſt obliterated faſciæ.

This is about an inch and a half in length, and near an inch in breadth in the largeſt part: it's height is no where half an inch; the whole ſhell is very thin, and the edge all round is thin and even; the head is the ſmaller extremity, and has a ſhort ſpiral turn running into the cavity of the mouth; the oppoſite end is ſomewhat large, and is hollowed in the manner of a ſpoon; the outer ſurface of the whole ſhell is of a pale tawny-brown, paler toward the edges than in the middle; the inſide alſo is of a pale brown, and has nothing of the pearly hue of the haliotis; there is no mark of any perforation in any part.

It adheres very firmly to the rocks, on the ſhores of many of the American iſlands, and in ſeveral other places.

Stomatia gibboſa ſtriis numeroſiſſimis tenuibus.
The gibboſe Stomatia, with very numerous fine ſtriæ.

This is about two inches in length, and an inch and a half in diameter, and is nearly of the ſame breadth all the way: the upper ſurface is full of extreamly numerous, fine ſtriæ, and is of a duſky chocolate colour: it is more elevated or gibbous than the former kind, and the edge is ſomewhat thick all round, and is whitiſh; the inſide of the ſhell is of a pale brown, with no particular gloſs or beauty.

It is ſent us from the American iſlands.

Stomatia margine ſinuato.
The ſinuated-edged Stomatia.

This is the largeſt ſpecies of this genus; it is four inches in length, and near three in breadth at the broader end, and is near an inch in height in the moſt elevated part: the upper ſurface is of a very deep chocolate colour, variegated with white; it is full of obtuſe, undulated ridges, which are of a pale and almoſt whitiſh colour on their ſummit, and of a deep purpliſh brown on the ſides, as is alſo the intermediate part of the ſhell: the inſide is of a pale brown, with a tinge of a violet red; the ſpiral turn at the head is ſmall, and the edge is all the way round-ſinuated, the depreſſions running between the extremities of the elevations.

It is found on the coaſt of Malabar, and no where elſe, ſo far as is yet known: few ſpecimens of it have yet got into Europe, and moſt of thoſe are in Holland.

The other ſpecies of the Stomatia are, 1. The ſmall, purple, ſmooth Stomatia. 2. The ſmall, brown, undulated, and ridged Stomatia. 3. The larger, ſmooth, purple Stomatia, with fine ſtriæ.

DENTALIUM.

THE Dentalium is a ſimple ſhell, having no hinge, and formed only of one piece: it is of a figure approaching to cylindric or conic, and is ſometimes crooked, ſometimes ſtraight; ſometimes cloſed at one end, ſometimes open at both: the animal inhabiting it is a nereis.

The name Dentalium has been given to this genus, from the great reſemblance ſome of the ſpecies have to the dentes canini of animals: they have alſo been called Antales and Entalia by ſome, and by many, from their tubular form, Tubuli marini.

Dentalium ſubcylindricum, ſtriatum, et annulatum.
The ſubcylindric, ſtriated, and annulated Dentalium.

This is a ſingular ſhell; when moſt perfect, it has much the appearance of a fragment only of ſome of the other ſpecies: it is about two inches in length, and of the thickneſs of a ſwan's quill; it's colour is a greyiſh-white, often, but not always, variegated with green, ſometimes with a tinge of reddiſh: it has about ten deep, longitudinal furrows running all the way down it's outer ſurface, and the ridges between them are rounded; there are uſually alſo three annules or circles paſſing round at unequal diſtances, and interrupting, but not wholly diſcontinuing, the longitudinal furrows: the ſhell is thin, and eaſily cruſhed or broken.

It is common on the ſhores of Italy, and in ſome other parts of Europe.

Dentalium conicum, inflexum, læve. The Dog,
The ſmooth, crooked, conic Dentalium. Tooth-ſhell.

This grows to about an inch in length, and to the thickneſs of a ſmall gooſe-quill: the figure is conic, largeſt at the mouth or opening, and thence becoming gradually ſmaller to the point, where it is ſharp, and has no opening: the whole external ſurface is ſmooth, and naturally poliſhed; and the colour is a fine bright white, like that of the fineſt porcelain; ſometimes, but more rarely, it is tinged with purple, ſometimes with a bright red or brown.

It is frequent on many of the coaſts of Europe, and is alſo common to the Eaſt and Weſt Indies; vaſt quantities are waſhed on ſhore on the coaſt of Portugal.

Dentalium conicum, inflexum, ſtriatum, et faſciatum.
The conic, crooked, ſtriated, and faſciated Dentalium.

This is a conſiderably large ſpecies; it grows to four inches in length, and to the thickneſs of a child's finger: the largeſt part is at the opening, or mouth, and it thence becomes gradually ſmaller to the other extremity, where it is terminated by a ſharp point, without any perforation; it is not ſtraight, but lightly curvated: it's ſurface

face is furrowed, with eight deep longitudinal lines arranged in pairs, with a vacant ſpace between them: the ridges are rounded, and there are two broad, annular marks ſurrounding the ſhell toward the baſe, and one other much narrower toward the point: the colour of the whole ſhell is a duſky grey, and it's ſurface not at all gloſſy.

It is found on the ſhores of Italy and elſewhere; and is very frequent, alſo, foſſile, in the mountains of Sardinia.

Dentalium conicum utrinque apertum.
The conic Dentalium, open at each end.

The great Sea-pipe.

This is ſix or ſeven inches in length, and three quarters of an inch in diameter near the mouth: the opening of which is rendered ſtill larger, by a kind of irregular lip which extends it to an inch and half in breadth; from this extremity to the other it diminiſhes all the way in thickneſs; and the oppoſite end is hardly more than equal to a gooſe-quill, and is open: the whole ſurface is of a duſky brown, and there are about twelve circular or annular ridges on it; they are not much elevated above the reſt of the ſurface, and thoſe toward the ends are leſs ſo than the others.

It is frequent in the German ocean, and is waſhed on ſhore in many places in ſufficient abundance, but is ſeldom found entire, being a thin and brittle ſhell, eaſily broken by ſtriking againſt others: when perfect, the larger extremity is not found wide open as in the others, but has an obtuſely conic body placed in it, pierced with a great number of ſmall apertures. By long lying on the ſhores it becomes white, and is very rarely found with this part remaining on it.

The other ſpecies of the Dentalium are, 1. The ſubcylindric, ſmooth, oblique, and thin Dentalium, called the Dentalium of the ſhops by many. 2. The irregularly cylindric, flexuous, and contorted Dentalium, found on other ſhells and corals. 3. The cylindric and variouſly contorted Dentalium, found in wood immerſed in ſea-water. 4. The large, ſtriated, conic Dentalium. 5. The large, ſmooth Dentalium. 6. The ſtraight, conic Dentalium. 7. The long and ſlender, ſmooth Dentalium. 8. The ſhort, ſmooth, open Dentalium.

NAUTILUS.

THE Nautilus is a ſimple ſhell, having no hinge, formed of one continued piece, rolled, as it were, into a ſpiral form, and having it's cavity divided into a great number of cells, by tranſverſe partitions, each of which has a perforation, and is continuous to the others, by means of a ſiphunculus carried the whole length of the ſhell.

The animal inhabiting this curiouſly formed ſhell is a Sepia.

Of the Nautili, ſome are thick and ſtrong, others thin, light, and brittle; ſome are aurited, others are not ſo; and ſome are ſmooth on the external ſurface, and others furrowed.

Nautilus craſſus apertura oblongo-ovata.
The thick Nautilus, with the aperture of an oblong, oval figure.

The common, thick Nautilus.

This is a beautiful ſhell, and grows to a very conſiderable ſize, often meaſuring ten or twelve inches the long way, when we meet with it entire; but the lip is thin, and very liable to be chipped and broken, and moſt of theſe brought to us have met with more or leſs of this kind of miſchief: when entire, the lip ſtands very high, and the opening of the mouth is large, and of an oval, oblong figure; from this part there runs a kind of tail, which turns within the hinder part of the opening of the mouth, and is continued in a ſpiral form for ſeveral circumvolutions, but within the body of the ſhell, and therefore not viſible, but by cutting it vertically open: the ſhell is conſiderably thick, heavy, and firm; it's outſide is of a browniſh hue, variegated with a paler colour: the inſide is of the moſt beautiful mother of pearl colour imaginable: the opening of the mouth does not go deep into the ſhell, but in it's hinder part there is a hole, which is the firſt opening of the ſiphuncle of the inner part: from this place

the whole cavity of the ſhell is divided into a multitude of cells, not more than a third of an inch deep in general; the diviſions are made by tranſverſe plates of the ſame pearly ſhell that lines the mouth, and the pipe or ſiphuncle, the mouth of which is viſible in the baſe of the firſt aperture of the ſhell, is continued regularly, through all the cells, to the very extremity of the ſhell. The cells are forty in number, and they grow gradually ſmaller from the firſt to the innermoſt of all.

It is found in the Archipelago, and in the Eaſtern ſeas; and is very frequent in the foſſile ſtate in the clay pits and ſtone quarries of moſt parts of England, though not a native of our ſeas. This and other the like obſervations prove the vaſt diſtance to which creatures were carried from the places of their original reſidence, at the time of the univerſal deluge; the only period at which, and the only cataſtrophe under which, the ſhells of the Eaſt, and the ferns of America, which we find ſo frequent in this iſland, could have been brought hither.

Nautilus craſſus apertura ſubrotunda.
The thick Nautilus, with a roundiſh aperture.

The little, thick Nautilus.

This ſpecies is, in the whole, of a rounded form, when entire, and rarely exceeds an inch and a half in diameter: the ſurface of the whole ſhell is ſmooth, and the opening of the mouth large, and approaching to round, but filled up in part behind, by the turn of the ſpiral part of the ſhell into it: the colour on the outſide is a pale tawny-brown, with lines of a darker brown on it: the inſide is of the ſame fine, pearly hue with that of the former: the mouth is open to a much greater depth in proportion, than that of the other kind; and at it's bottom has an aperture, which runs through a multitude of cells, into which the inner cavity of the ſhell is divided as in the other.

This is a native of the Perſian gulf, and of ſome other parts of the Eaſt.

Nautilus tenuis, auritus, dorſo denticulato.
The thin, aurited Nautilus, with a denticulated back.

This is a moſt extreamly elegant ſpecies: it grows to eight or ten inches in diameter, and it's ſhell is ſcarce thicker than a ſtrong paper: the opening of the mouth is extreamly large, and is of a figure approaching to elliptic, but truncated at the hinder part, where the ſpiral turn of the ſhell enters it: the whole rim or verge of the mouth is undulated, and the hinder extremity of it is furniſhed with two appendages of ſhell, called ears, one on each ſide the turn of the ſhell, which does not nearly fill up the ſpace between them: the whole ſhell is of a beautiful ſnow-white, and it's outer ſurface is beautifully marked with undulated ridges, with circular lines dividing them into ſpaces, and with a multitude of tubercles: the back is formed all the way into a hollow, from the center of which there riſes a denticulated ridge.

This ſpecies is frequent in the ſeas about the Eaſt Indies, and in ſome parts of America: our ſailors have ſometimes the curioſity to pick them up, as they are in their boats, and the creatures ſail by them; theſe are uſually brought over entire to us; but what others we had, uſed to be greatly damaged, till of late, that ſhells are become a regular part of commerce, and people are employed to collect them as carefully as any other article of trade.

Nautilus tenuis, non auritus, dorſo ſulcato.
The furrowed-backed Nautilus, without ears.

The paper Nautilus.

This is a very large and a very elegant ſpecies; it is all over of a perfect ſnow-white, and is not thicker than a piece of ſtrong paper; it meaſures often near a foot the largeſt way, but it is thin, and, as it were, compreſſed: the opening of the mouth is very large, but it is narrow, and there are no ears, but the corners of the hinder part of the mouth, between which the ſpiral turn of the ſhell enters the cavity, are high and ſharp: the whole outer ſurface is elegantly ridged with rounded and undulated lines, with hollow ſpaces between them: the back has a furrow hollowed all the way along it, and the ridges, which make it, are ſharp and ſerrated.

It is found in the Eaſtern ſeas, and in ſome of the warmer parts of Europe; in fine weather there are vaſt numbers of them ſeen together, ſailing about on the ſurface of the water, near the ſhores.

Nautilus tenuis, non auritus, dorſo ſulcato et undulato.
The thin Nautilus without ears, and with a ſulcated and undulated back.

This is a ſmaller ſpecies than the former, but it is a very beautiful one; it meaſures about five inches the longeſt way, and is between three and four in depth, but it is very thin, and, as it were, compreſſed: the opening of the mouth is very long, but it is narrow, and it has no ears, nor even the ſharp corners of the former ſpecies; the colour is a yellowiſh-white, and the ſubſtance very thin and delicate; the whole ſurface is ridged in a tranſverſe, undulated manner: the back is furrowed and undulated, and the two ridges of it are raiſed into broad and obtuſe denticulations.

This ſpecies is ſometimes found about the ſhores of the American iſlands, but rarely.

The other ſpecies of Nautilus known recent at this time are, 1. The little papyraceous Nautilus, with a ridged back. 2. The little, thick Nautilus, with an oval mouth. 3. The little, umbilicated Nautilus, with furrowed ſides. 4. The aurited, thin Nautilus, with a broad mouth. 5. The prickly, aurited, thin Nautilus. 6. The thin Nautilus, with ſerrated prickles.

Theſe are all that have been found recent in our ſeas, but we have many other ſpecies preſerved in the foſſile world, which probably are, at this time, the inhabitants of the deep ſeas, whence no accident ever brings them on ſhore: of theſe kinds are the Nautilus armatus, or mailed Nautilus; and the great, thick Nautili of our ſtone quarries, which differ from the common thick Nautilus: all the ſpecies of the cornua Ammonis alſo belong to this genus; as do alſo the orthoceratitæ, and the other concamerated ſhells found foſſile, and figured and deſcribed in the former volume of this work: ſome of theſe are quite ſtraight, and of a conic form; others have their ends more or leſs ſpirally twiſted; but all of them have their cavities divided in this manner into many cells, with a ſiphuncle.

COCHLEA.

THE Cochlea is a ſimple ſhell, having no hinge, formed of one ſingle piece, of a ſpiral form, and containing only one cell, or having it's whole inner cavity undivided: it is of an umbilicated form.

The ſpecies of this genus are very numerous, and have certain diſtinctions, according to which they may be conveniently arranged under ſeveral diviſions: the clavicle in ſome is depreſſed, in others it is elevated; in ſome the ſurface is ſmooth, in others it is ſtriated; in ſome it is rough, and in others tuberculoſe, furrowed, or jagged: theſe are, however, leſs regular marks of diſtinction, than are diſcoverable in the opening or mouth; this, 1. in ſome is quite round, or nearly ſo; 2. in others it is ſemicircular, or ſemioval, being truncated, as it were, or otherwiſe terminated by a ſtraight ridge behind; and, 3. in others it is depreſſed, or formed of a ſemicircle, cruſhed together, as it were, or in part filled up by one of the turns of the ſhell entering into it.

1. Cochleæ, with round, or nearly round openings or mouths.

Cochlea elata tuberculoſa ore rotundo aureo.
The tall, tuberculoſe Cochlea, with a round, yellow mouth.

The gold-mouthed Snail.

This is a very elegant ſhell; it grows to about two inches in height, and an inch and a half in diameter: the thickeſt part is toward the middle; from thence it grows a little ſmaller one way to the mouth, and gradually tapers the other way to a point at the extremity: it's ſurface is deeply furrowed with circular or ſpiral lines, which ſeem plicated, and are ſomewhat irregular, and there are a great number of tubercles on it, diſpoſed regularly in five ſeries; they are moderately large, and are obtuſe at the extremity: the ſurface is variegated with a deep brown, and a paler colour; the extremities of the tubercles are paleſt; there is much variation in the external colour, but the

the mouth is always of a fine, bright, gold-like yellow within; it is round, and is edged all the way about with a narrow lip.

It is thrown on ſhore in great abundance in many parts of America, and is found alſo in ſome parts of Europe.

Cochlea ſubulata echinata et laciniata.
The ſubulated, echinated, and laciniated Cochlea.

The echinated Snail.

This is an extreamly beautiful ſhell; it grows to about an inch in height, and to nearly two inches in diameter in the largeſt part, which is near the mouth: it does not run up to a point at the upper extremity, but the clavicle is, as it were, flatted for two or three turns; after theſe the ſhell lengthens, and extends in diameter till near the mouth, where it again grows ſomewhat ſmaller, and the mouth itſelf is nearly round, and is edged with a narrow lip: the whole external ſurface of this ſpecies is, as it were, echinated; there ariſe prominences too large for the name of tubercles all over it, following the ſpiral turn; ſome of theſe are ſimple, a third of an inch long, and pointed at the extremity; others are, as it were, complex, or formed of three or four of theſe together: theſe laſt are flatted and undulated, and are dentated at their extremities: the general colour of the external ſurface of the ſhell is yellowiſh, but theſe prominences are of an elegant roſe colour, ſometimes with a tinge of violet: the inſide is entirely white, and of a fine, pearly appearance.

This is brought from the ſhores of many parts of the Eaſt, and has alſo been met with in the American ſeas. There is indeed no claſs of animals that is ſo general, or ſo much at large, in the place of their habitation, as the ſhell-fiſh.

Cochlea elata profunde faſciata.
The deeply faſciated, elate Cochlea.

The belted Snail.

This is a large ſpecies: it grows to two inches and a half in height, and to very nearly as much in thickneſs: it conſiſts of four very diſtinct, ſpiral turns, of which that next the mouth is vaſtly the largeſt; the mouth is very large, and is nearly round, but ſomewhat approaching to oval; the upper extremity is obtuſe, though very ſmall; the whole ſurface is very deeply furrowed in lines, following exactly the ſpiral turn of the ſhell; and the prominences between theſe are ſo many broad belts of a rounded, not ridged, figure at their tops: the colour of the external ſurface of the whole ſhell is a mixt brown and grey; the inſide is a bluiſh-white, with very much of the pearly appearance.

We frequently meet with this ſhell ſtripped of it's outer cruſt in our cabinets, when it has undergone this artificial change; the whole is of a beautiful pearly white, and is very beautiful. It is frequent on the coaſts of the American iſlands, and in ſome other places.

Cochlea elata lævis faſciata.
The elate, ſmooth, faſciated Cochlea.

The ſmooth, ribband Snail.

This is one of the talleſt, or longeſt, in proportion to it's breadth, of all the Cochleæ: it is two inches long and little more than an inch in diameter; it conſiſts of five ſpiral turns, and is terminated at the top by a very ſharp point: the whole external ſurface is ſmooth; there is not the leaſt protuberance, nor ſo much as the leaſt line or furrow on it: it's colour is a duſky, but not diſagreeable, brown, paler in ſome places than in others, and it is variegated with a number of broad and very beautiful ſtreaks in the form of ribbands, following the volution of the ſhell; theſe are of a very elegant reddiſh-brown, and are variegated in ſome places with whitiſh; between theſe there are often other narrow and fainter lines of the ſame kind, and the whole is very beautiful.

We have it on the ſhores of many parts of Italy.

Cochlea

Cochlea depreſſa lævis.
The ſmooth, depreſſed Cochlea.

The white Cornu Ammonis Snail.

This is a very beautiful ſhell, and in it's general ſhape differs extreamly from the two preceding; it conſiſts of five ſpiral turns, but it is perfectly flat, the clavicle not at all elated, but the point is ſunk lower than any other part of the ſhell, in conſequence of it's being more ſlender: the diameter of this ſhell is about two inches and a half, and it's thickneſs in the largeſt part not more than half an inch: it's mouth is round, and the ſhell is there largeſt, and goes from thence gradually tapering all the way to the central point; the ſurface is ſmooth, or at the utmoſt has only the appearance of a few obliterated faſciæ: the colour is entirely white, except that the eye of the volute is brown.

It has ſomething of the external figure of the Cornua Ammonis, which we find foſſile, but their cavity is divided by cells in the manner of the nautilus; this is entire, ſo that it is quite of another genus.

Cochlea elata cancellata et tuberculoſa.
The cancellated and tuberculoſe, elate Cochlea.

The warty Snail.

This is a ſmall ſpecies; it ſcarce ever exceeds three quarters of an inch in length, or about half an inch in diameter: it conſiſts of four ſpiral turns, and it's top is obtuſely pointed; the whole outer ſurface of the ſhell is marked with ſpiral lines, and with others croſſing them: theſe are both diſpoſed at ſuch ſmall diſtances, that they form a kind of chequer of ſmall ſquares, in the centers of many of which there ſtand little tubercles, in the manner of warts: the ſhell is of two colours; the upper part of it is of a pale brown, and the tubercles on it are of a whitiſh colour, and make a very pretty appearance; the lower part has a tinge of greyiſh, and the protuberances are large, obtuſe, and of the ſame colour: the mouth is nearly round, and both that and the whole inner ſurface of the ſhell are of a fine pearly white.

It is frequent on the coaſts of America, and is found alſo in ſeveral parts of Europe.

The other ſpecies of the round or fully open-mouthed Cochleæ are, 1. The great, faſciated, and tuberculoſe Cochlea. 2. The large, ſmooth, grey, and white Cochlea. 3. The large, green Cochlea. 4. The variegated, ſmooth Cochlea, called by many the ſerpents ſkin-ſnail. 5. The oval, umbilicated Cochlea. 6. The flat, belted Cochlea. 7. The villated Cochlea. 8. The deeply-furrowed Cochlea, with ſharp ridges. 9. The green and yellow Cochlea. 10. The fine, tall, cheſnut-coloured, unvariegated Cochlea. 11. The reddiſh, brown, variegated, ſmooth Cochlea. 12. The greeniſh, ſpotted Cochlea, with the depreſſed clavicle. 13. The little, entirely green Cochlea, called the Emerald ſhell. 14. The greeniſh, Chineſe Cochlea, with two white lines. 15. The brown, Chineſe Cochlea, with a white croſs. 16. The violet colour Cochlea. 17. The yellow and white-ſtreaked Cochlea, with an extended lip. 18. The rough and furrowed Cochlea, with a ſilvery mouth. 19. The umbilicated and granulated Cochlea. 20. The depreſſed Cochlea, every-where armed with pointed tubercles. 21. The ſmall, elegant, red Cochlea. 22. The ſimply, faſciated, brown and white Cochlea. 23. The ſmooth, marbled, and clouded Cochlea. 24. The more deeply, faſciated Cochlea, with undulated plates. 25. The leſſer, ſmooth-clouded, obtuſe-pointed Cochlea. 26. The high-ridged, clouded Cochlea. 27. The roundiſh and ſomewhat depreſſed Cochlea, with clouded variegations. 28. The tall, ſlender, faſciated Cochlea. 29. The tall, ſlender, and ſharp-pointed, ſmooth Cochlea. 30. The tuberculoſe Cochlea, with obtuſe prominences. 31. The depreſſed Cochlea, with pointed, ſimple ſpines at the middle of every turn.

2. *Cochleæ, with the opening or mouth of a half round figure, or truncated behind. This diviſion of the Cochleæ comprehends the neritæ of authors, which are genuine Cochleæ.*

Cochlea lævis fuſca ore magno.
The ſmooth, brown Cochlea, with a great mouth.

This is a beautiful ſpecies; it grows to about an inch in diameter, and as much in height: it's ſurface is ſmooth and even, and it's colour a bright agreeable brown, gradually growing paler toward the edges of the ſhell, till it becomes almoſt whitiſh: the clavicle is but little exerted, and the mouth is very large; it is of a very regularly ſemicircular figure, the anterior part of it extending to a true ſegment of a circle, and the hinder being formed into a ſtraight line, cutting it off, as it were; this part has a ſmall lip, and an umbilicated hole behind it; the whole inner ſurface of the ſhell is whitiſh.

It is a native of the Eaſt Indies.

Cochlea faſciis tribus elevatis.
The Cochlea, with three elevated faſciæ.

The three-ribbed Snail.

This is a ſingular and beautiful ſpecies: it grows to an inch and half in diameter: the body is large; the clavicle ſmall, ſpiral, and depreſſed. The whole is ſmooth, except that there run three lines or faſciæ, which riſe above the ſurface, which are narrow, but not very ſharp, along the whole body, dividing it, as it were, into ſo many ſpaces: the ground colour of the ſhell is a reddiſh-brown, and the variegations, which run in the form of irregular clouds, are of a paler colour: the mouth is large and ſemicircular, and both that and the whole inner ſurface of the ſhell are of a pearly hue.

It is frequent on the coaſts of South America, and is alſo brought ſometimes from the Eaſt Indies.

Cochlea ſubrotunda lævis ore lato.
The roundiſh, ſmooth Cochlea, with a wide mouth.

This is a ſmall ſpecies, and is the roundeſt in it's figure of any of this genus: the body is large, and is about equal to it's depth in it's diameter: the clavicle is ſmall, and forms a depreſſed ſpiral turn at the end: the mouth is very large, and is ſomewhat broader than it is deep; it is regularly ſemicircular at the anterior part, but the part of the ſhell that cuts it off behind, is continued forward toward the middle, ſo as to fill up a part of the opening; it is in this place formed into a kind of lip, and has an umbilicated hole behind it: the whole ſurface is ſmooth, and of a greyiſh-white, variegated with two irregular zones, formed of a number of clouded ſpots, rough and lacerated, as it were, at the edges: the inſide of the ſhell is of a pearly white.

This ſpecies is frequent in the Eaſt Indies, where it is not uncommon to find the Cancelli, or Hermit Crabs, while young in them.

Cochlea labio poſteriore bidentato.
The Cochlea, with the poſterior lip bidentated.

The toothed Nerite.

This is one of thoſe Cochleæ which have been injudiciouſly ſeparated from the others, under the name of Neritæ: it grows to about an inch in length, and three quarters of an inch in diameter: the body is large, and of an oblong inflated figure; the clavicle is ſmall, and forms a depreſſed ſpiral turn: the colour of the outer ſurface of the ſhell is grey, variegated with a deeper iron grey, which is almoſt black; the variegations lie in irregular clouds, not very large: the inſide is whitiſh or pearly; the mouth is large and ſemicircular; the hinder lip is dentated, or formed about the center with two oblong and obtuſe teeth, which are ſometimes reddiſh towards their extremities, ſometimes all over: in this caſe, our collectors call it the Bloody-tooth Nerite, but they give the ſame name alſo to the next ſpecies, and to ſeveral others under the ſame accidents.

Cochlea

Cochlea profunde faſciata, ore utrinque bidentato.
The deeply faſciated Cochlea, with the mouth bidentated each way.

This is a very elegant ſpecies; it grows to about an inch in diameter, and is nearly round; the clavicle is very ſmall and depreſſed: the whole outer ſurface of the ſhell is formed into elevated broad faſciæ, which are only ſeparated by narrow furrows, and run all the way parallel to one another: the colour is a pale whitiſh-grey, variegated in a beautiful manner with black: the inſide of the ſhell is white and pearly; the mouth is of an irregularly ſemicircular figure: the anterior lip is broad, thick, and prominent, and the poſterior, or tranſverſe, one is very broad; each of them has two denticulations in the form of teeth, which are ſometimes white, like the reſt of the inner ſurface of the ſhell, but often red, and as it were bloody.

It is very frequent in the Eaſt Indies, and has been met with on ſome of the European coaſts.

Cochlea elevata ſpinoſa.
The elevated, prickly Cochlea.

The prickly Snail.

This is a ſmall, but a very ſingular and elegant, ſpecies: it's length, or height, is about three quarters of an inch; it's diameter hardly half an inch; it conſiſts of four turns, and it's ſurface is formed into perpendicular, obtuſe ridges, with ſmall hollowed ſpaces between them; round the larger turns, it has two ſeries of long and ſlender ſpines, very ſharp-pointed; the outſide of the ſhell is beautifully variegated with a deep reddiſh-brown, and a paler colour approaching to white.

It is a Chineſe ſhell; we have it in ſome of our cabinets.

Cochlea elata fuſco-nebulata.
The elated Cochlea, clouded with brown.

The clouded Snail.

This is about an inch and a half in height, or length, and an inch in diameter: it conſiſts of five ſpiral turns, and the extremity of the clavicle is ſmall and obtuſe: the whole external ſurface is ſmooth; no riſing, nor any faſciæ or protuberances, appear on it, nor even ſo much as a ſtreak of any kind: the ground colour is a pale brown, and the variegations, which are diſpoſed irregularly in ſmall clouded ſpots, are of a very dark brown: the mouth is large, and of a tolerably regular figure of the ſemicircular kind; that and the whole inſide of the ſhell is ſilvery.

The other ſpecies of this genus are, 1. Of thoſe generally called Cochleæ by authors. 1. The large, broad-mouthed Cochlea, with an oblong umbilicus. 2. The roundiſh, ſmaller-mouthed Cochlea, with the apex but little exerted. 3. The roundiſh, ſmaller-mouthed Cochlea, with the apex depreſſed. 4. The fine, roundiſh, umbonated Cochlea. 5. The thin, roundiſh, ivory Cochlea. 6. The thick, ivory, white Cochlea. 7. The ſmall, orange-coloured, large-mouthed Cochlea. 8. The great, brown Cochlea.

2. Of thoſe called by authors Neritæ, or Nerites, there are, 1. The common, ſmooth, yellow Nerite: this varies in colour, being ſometimes white, ſometimes brown. 2. The leſſer, white Nerite. 3. The larger, faſciated, thick-lipped Nerite. 4. The larger, ſlightly ſtriated, broad-lipped Nerite. 5. The ſtriated and punctulated Nerite. 6. The faſciated Nerite, with black and yellow ſpots. 7. The deeply furrowed Nerite. 8. The brown and yellowiſh ſpotted Nerite. 9. The brown and greyiſh ſpotted Nerite. 10. The roſtrated jaſper Nerite. 11. The ſmall, greeniſh, oblong Nerite. 12. The ſmall, yellow, oblong Nerite. 13. The reticulated Nerite. 14. The larger, prickly Nerite. 15. The greyiſh Nerite, ſpotted with red. 16. The greyiſh-brown Nerite, ſpotted with black. 17. The black, red-ſtreaked, and ſpotted Nerite. 18. The lightly ſtriated, green Nerite. 19. The longer, black and yellow Nerite.

3. *Cochleæ, which have the mouth flatted or depreſſed, and in part filled up with the turn of the ſhell: theſe are generally of a conic figure: they are generally broad at the baſe, and, in moſt, the clavicle is elated; ſome have it depreſſed, and are umbilicated;*

licated; and moſt of them are remarkable for the pearly ſplendor of their inner ſurface. Authors have called the greater part of the ſpecies of this diviſion Trochi.

Cochlea conica tuberculoſa.
The conic, tuberculoſe Cochlea.

The rough Trochus.

This is a large and very elegant ſhell: it is often three inches in height, and two in breadth at the baſe: it's form is pretty regularly conic; it's mouth is moderately large: it conſiſts of about ſix ſpiral turns, and is terminated at the top by an obtuſe end. It is elegantly beſet with tubercles: they are large, broad at the baſe, and obtuſe, and are diſpoſed in five or ſix ſeries, and the reſt of the ſurface is undulated: the colour is a beautiful grey, variegated with blackiſh.

It is a native of the Eaſt Indies; we have it in great abundance ſometimes from China: the inner ſurface is of a fine pearly hue, and it is a common cuſtom with our collectors of pretty ſhells to have the outer coat of this taken off with acids; after which, a little poliſhing gives it the entire pearly appearance throughout.

Cochlea conica lævis,
The ſmooth, conic Cochlea.

The ſmooth Trochus.

This is a large ſpecies; we meet with it of three inches in height, and more than two in breath: it conſiſts of about ſeven diſtinct ſpiral turns, and gradually becomes ſmaller all the way from the baſe to the top, where it is terminated by an obtuſe end: the mouth is moderately large, and is of a ſilvery white within, as is alſo the whole inner ſurface of the ſhell: the outer ſurface is tolerably ſmooth, and is of a whitiſh colour, variegated with irregular rays of reddiſh and brown.

It is an Eaſt Indian ſhell, but we have it alſo from ſome other places.

Cochlea conica tranſverſim radiata.
The tranſverſely radiated conic Cochlea.

The wavy Trochus.

This is about two inches in height, and an inch and a half in diameter at the baſe; it conſiſts of about ſeven ſpiral turns; the two loweſt diſproportionately large and flattiſh, and the others very ſmall; the extremity is an oblong, obtuſe point: the whole ſhell is of an elegant white, the outſide approaching to the porcelain white, and the inner ſurface being perfectly pearly: there are a great number of tranſverſe ridges on all the parts of the ſhell; they are conſiderably elevated above the reſt of the ſurface, but they are not ridged, but rounded irregularly at the ſummit.

It is a native of China, and ſome other parts of the Eaſt.

Cochlea conica ſpinoſa.
The prickly conic Cochlea.

The prickly Trochus.

This is one of the moſt elegant of this genus. It is about two inches in height, and an inch and a quarter in diameter at the baſe: it conſiſts of about ten ſpiral turns, but the four or five upper ones are very indiſtinct: the lower ones are large, and, round the edges of the three or four larger, there ſtand regular ſeries of ſharp and tolerably ſtrong prickles: the ſurface of the lower part of the ſhell is ſomewhat irregularly raiſed into a few tranſverſe ridges, and has many fine lines running principally in pairs in the courſe of the volutions: the outſide is of a beautiful cheſnut brown; the ſpines paler, and the lines darker than the reſt.

It is a native of the Eaſt Indies: we have it principally from China.

Cochlea depreſſa lævis.
The ſmooth, depreſſed Cochlea.

The French-horn Snail.

This is an elegant ſpecies, but of an extreamly different form from all the precedeing; they are all elevated into a conic figure; on the contrary, this is depreſſed and flat, and the extremity of the clavicle, is ſunk within the reſt of the ſurface. It is of an orbiculated figure, and about two inches in breadth, and half an inch thick: it's

it's mouth is a ſegment of a circle depreſſed, and filled up in a great meaſure by the ſucceeding turn of the ſhell: it conſiſts of four or five volutions: It's colour is uſually yellowiſh, ſometimes white.

It is frequent on the ſhores in many parts of the Eaſt Indies, and in ſome other places.

Cochlea parum elevata margine volutionum ſerrata.

The little elevated Cochlea, with the edge of the volutions ſerrated.

The ſerrated Snail, or Spur-ſhell.

This is a very beautiful, as well as very ſingular, ſhell: it is about two inches in breadth at the baſe, and not much more than an inch in height. It is compoſed of about ſix ſpiral turns or volutions, and each of theſe has a ſharp edge which is beautifully ſerrated, the denticulations riſing into a kind of ſpines, which are broad at the baſe, and pointed at the extremity: in many poſitions, the ſhell gives a fine reſemblance of a ſpur with large rowels: the clavicle is depreſſed at the top; and the mouth of the ſhell is conſiderably large; the colour varies; it is ſometimes of a beautiful pale yellow, ſometimes perfectly white; the inner ſurface is always of a beautiful pearly hue.

It is common in many parts of the Eaſt Indies, and has not yet been met with elſewhere.

Cochlea conica elata undulato-tuberculoſa.

The ſomewhat conic, elate Cochlea, with tuberculous undulations.

This is about an inch and a half in diameter, and nearly as much in height: it conſiſts of about ſix ſpiral turns, and is terminated at top by a little roundiſh button: it's ſurface all over is elevated into a kind of undulated, tranſverſe lines; the central points of which are raiſed into blunt tubercles: the colour on the ſurface is agreeniſh-grey: the more prominent parts, and the ſummit of the clavicle, are paler than the reſt, and ſometimes whitiſh.

It is common to the Eaſt and Weſt Indies; but, in Europe, we have not yet found it.

The other ſpecies of the flat-mouthed Cochlea are, 1. Of thoſe which have the apex of the clavicle exerted. 1. The elegantly ſpotted, brown and grey Cochlea. 2. The conic Cochlea, with red and white ſpots, 3. The elegant, punctulated, conic Cochlea. 4. The large, green, conic Cochlea: this is often ſtripped of it's outer green coat, and is then perfectly pearly throughout. 5. The ſmaller, knotty Cochlea. 6. The ſmooth, greeniſh Cochlea. 7. The ſmooth, reddiſh Cochlea. 8. The undulated, yellowiſh Cochlea. 9. The ſlightly, undulated, greyiſh Cochlea. 10. The duſky-grey, lower Cochlea. 11. The ſpotted, black and white, lower Cochlea. 12. The ſtreaked, yellow and black, lower Cochlea. 13. The Cochlea, with elevated ribs, and a pointed top. 14. The tuberculoſe and prickly Cochlea. 15. The beautifully variegated Cochlea, called the Stair-caſe Shell. 16. The white Cochlea, with depreſſed ribs. 17. The very rough, grey, and black Cochlea. 18. The dentated, Cochlea. 19. The Spur-ſhell, with ſhort ſpines. 20. The gold-yellow Spur-ſhell, with a ſilvery white umbo. 21. The totally-yellow, long-ſpined Spur-ſhell.

2. Of thoſe which have the apex of the clavicle more plain, or even depreſſed; there are, beſide the deſcribed ſpecies, 1. The brown and grey Cochlea, with an expanded mouth. 2. The flat Cochlea, with white and brown variegations, in broad irregular lines. 3. The ſmall depreſſed Cochlea, with a dentated mouth. 4. The larger, dentated, mouthed Cochlea. 5. The yellow Cochlea, hollowed in the center. 6. The yellowiſh, broad Cochlea, with the apex a little exerted. 7. The whitiſh Cochlea, with brown lines. 8. The brown, flat Cochlea, with yellow and white lines. 9. The white, flat Cochlea, with yellow ſpots and lines.

BUCCINUM.

THE Buccinum is a ſingle ſhell having no hinge, formed of one piece, and that ſhaped in ſome degree like a horn, or other wind inſtrument: the belly of the ſhell is diſtended; the aperture of the mouth is large, wide, and elongated; the tail is more or leſs long, and the clavicle more or leſs exerted.

Liſter has made ſo large a genus of this, that it comprehends almoſt all the other ſhells of the univalve claſs; but the ſpecies, under theſe limited characters, are ſufficiently numerous, and a multitude of others, that would have bred confuſion, are by theſe reſtrictions thrown out, and made the ſpecies of the ſeveral ſucceeding genera, all of which are in ſome degree related to one another.

Buccinum tenuius tuberculoſum roſtro elongato.
The ſlender tuberculous Buccinum, with an elongated roſtrum. **The Spindle-ſhell.**

This is a very ſingular ſpecies: it's length is four or five inches, and it's diameter, in the thickeſt part, not more than an inch: this thickeſt part is nearly in the middle of the ſhell, for the mouth has a roſtrum or ſnout for it's lip, which is continued almoſt to an equal length one way, with the clavicle the other: the ſhell conſiſts of about ten ſpiral volutions, each of the five larger, or lower ones are elevated into a kind of ridge in the middle, which ridge is formed of a row of ſhort and obtuſe tubercles: the roſtrum which goes from the mouth is ſlender, and is ſpirally radiated: the general colour of the outer ſurface is white, but the tubercles are yellowiſh, as are alſo the radiations and lines between the ſeveral ſeries of them.

It is found on the ſhores of many of the American iſlands.

Buccinum tenuius læve roſtro fiſſo.
The ſmooth and ſlender Buccinum, with a ſplit roſtrum. **The Mitre-ſhell.**

The general length of this ſpecies is about three inches: it's diameter is three quarters of an inch: it conſiſts of about five volutions, the lower one of which is at leaſt equal in length to all the reſt together: the ground colour of this ſhell is white, and it is beautifully variegated with irregular clouds and ſpots of a duſky reddiſh: it is perfectly ſmooth and even: the mouth is long and narrow, and the upper extremity of it is, as it were, ſplit.

This was firſt brought from the Eaſt Indies, but it has ſince been found to be a native alſo of the American ſeas, and of many other places.

Buccinum tenuius læve, roſtro oblongo, labio exteriore denticulato.
The ſmooth, ſlender Buccinum, with an oblong roſtrum, and the outer lip denticulated.

This is alſo a very ſingular and beautiful ſhell: it's length is five or ſix inches; it's diameter, in the largeſt part, ſcarce more than an inch, and it's roſtrum equal to about half the length of it's tail. It conſiſts of twelve ſpiral volutions: the loweſt of theſe is largeſt, and ſomewhat bellied; it opens, at the front, into an oblong mouth, the anterior lip of which has four or five large denticulations on it: and the joining of the two lips is continued into a roſtrum or ſnout, of a long and ſlender figure, and pointed at the end: the ſurface of the whole ſhell is ſmooth, and the colour white.

It is very frequent on the ſhores of our American iſlands.

Buccinum ſublongum tranſverſim radiatum.
The ſublong and tranſverſely radiated Buccinum.

This is a very ſingular and beautiful, and a very ſcarce, ſhell: it's length is about four inches, and it's diameter, in the broadeſt part, nearly two. It is compoſed of ſeven ſpiral turns, and theſe are ſeparated, as it were, one from another, and are flatted on their ſides, not bellied as in moſt others: the colour of the outer ſurface is yellow, and it is all over tranſverſely radiated with thick and ſomewhat prominent, rounded ſtreaks: the opening of the mouth is oblong and large, and the extremity of the roſtrum obtuſe.

It is a native of the Eaſt, and is ſeldom met with: it ſeems to be an inhabitant of the deep ſeas, and only to be thrown up in great ſtorms.

Buccinum brevius tuberculoſum ore magno.
The ſhort tuberculous Buccinum, with a large mouth.

This is a beautiful ſpecies: it's length is about two inches, and it's breadth, in the largeſt part, nearly as much: the mouth is oblong and very large, and the outer lip broad; the extremity of the mouth is a little ſplit. The tail is ſhort and thick; it conſiſts of about ſix volutions: the outſide of the ſhell is of a browniſh colour, with ſome variegations of red and whitiſh, and is beſet with a great number of ſhort and obtuſe tubercles, diſpoſed in ſeveral ſeries.

It is a native of the Weſt Indies, and is frequent in the cabinets of our collectors.

Buccinum brevius læve ventricoſum.
The ſmooth, ſhort, ventricoſe Buccinum.

This is a very ſingular ſhell, in that the volutions go the contrary way to thoſe of the generality of theſe, and the mouth in conſequence, is turned a contrary way. It is about an inch and three quarters long, and near an inch in diameter in the thickeſt part. It conſiſts of ſix volutions, the loweſt of which is much the largeſt, and is inflated, as it were; the mouth is ſmall, and of a figure approaching to an oblong oval: the whole ſurface of the ſhell is ſmooth, and it's colour is yellow.

It is a native of the American ſeas; we have it from Barbadoes.

Buccinum brevius læve labio protenſo.
The ſhort, ſmooth Buccinum, with an expanded lip.

This is an inch and a half in length, and more than an inch in diameter in the broadeſt part: it conſiſts of about four ſpiral turns, and the extream one is thick, and very obtuſe at the top: the mouth is oblong and large, and the lip is expanded to ſome breadth: the outer ſurface of the whole ſhell is ſmooth, and is of a pale browniſh colour, elegantly variegated with a great number of yellow zones.

It is found on the ſhores of many parts of the Eaſt Indies, and is met with foſſile in France very perfect.

Buccinum tenuius cancellatum.
The ſlender, cancellated Buccinum.

This is about two inches and a half in length, and is no where more than an inch in diameter: it is compoſed of ſeven volutions, and the four extream ones are very ſmall, the laſt terminating in a fine point: the mouth is oblong, moderately large and reddiſh; the lip is narrow, and is covered at the bottom, and ſplit a little at the top: the whole outer ſurface of the ſhell is ornamented with longitudinal ridges, elevated pretty high and rounded; theſe croſs the volutions, and ſtand ſomewhat cloſe to one another; and there are a number of broad lines alſo following the volutions of the ſhell, which, croſſing the ridges, divide the whole ſurface into ſmall ſquares, in a beautiful manner.

It is frequent on the ſhores of the American iſlands.

Buccinum breve ventricoſum ore anguſto dentato.
The ſhort, ſmooth, ventricoſe Buccinum, with a narrow dentated mouth.

This is one of the moſt ſingular ſpecies of this genus: it is an inch and a half in length, and near an inch and a quarter in diameter: it conſiſts of about nine volutions, but the lower one makes, alone, almoſt the whole ſhell, the others being all compriſed in the ſpace of the third of an inch; the lower, or great volution, is of a figure approaching to oval, but too ſmall at the larger end, to anſwer exactly to that figure: it's mouth is ſmall, oblong, and narrow; the lip is carried at each end a little beyond the aperture, and forms a ridge; and the mouth is dentated on both ſides: the colour is a pale brown, variegated with a deeper colour of the ſame kind, and, in ſome places, with a faint whitiſh.

It is a narive of the Eaſt Indies, and is common to ſome other places.

Buccinum craſſius ore magno ſimplici.
The thick Buccinum, with a great ſimple mouth.

This grows to four or five inches in length, and is two inches and a half in diameter in the thickeſt part: it conſiſts of ſix ſpiral turns or volutions, and is terminated by a ſmall but obtuſe end: the lower volution, which forms, as it were, the body of the ſhell, is ventricoſe and large; the mouth is large and oblong, and is quite ſimple, the lips being thin, and not at all edged: the colour is a beautiful whitiſh, variegated with red, yellow, and brown, in an elegant manner, and the whole ſurface is ſmooth, and has a fine natural poliſh.

It is a native of the Weſt Indies.

Buccinum ovato-oblongum læve ore longo anguſtiſſimo.
The ſmooth, ovato-oblong Buccinum, with an oblong and very narrow mouth.

The Midas Ear-ſhell.

This is one of the moſt ſingular of this varying genus; it is three or four inches long, and between two and three in diameter; the figure is oblong, and, with the length of the aperture of the mouth, has ſome reſemblance to the ear of an aſs, whence it has obtained it's common name of Midas's Ear. It conſiſts of ſix volutions, but the lower one alone makes up almoſt the whole ſhell; this is of a figure approaching to oval: the mouth reaches almoſt the whole length of it, and is very narrow, appearing ſcarce more than a ſlit, ſomewhat broader at the bottom than elſewhere: the lip is rounded, and, toward the bottom, has a kind of reduplication: the ſurface is perfectly ſmooth, and the colour a pale brown.

It is a native of the American ſeas.

Buccinum breviſſimum roſtro ſublongo cavo.
The very ſhort Buccinum, with a long, hollowed ſnout.

This is about two inches and a half in length, and near two inches in diameter, but, excepting for the ſnout or roſtrum, it is much thicker than it is long: it is compoſed of about ſix ſpiral volutions, but they are very ſhort and flatted, and the extremity is obtuſe; the body of the ſhell is large; the mouth wide, and of a ſomewhat oval figure; and the extremity of the ſhell continued into a kind of ſnout, conſiderably long, ſlender, and hollowed: the lip is thick and wrinkled, and the whole ſurface of the ſhell is very deeply wrinkled, and is full of low, oblong, protuberances, which ſeem, indeed, little more than the higher elevations of the ridges between the wrinkles.

It is a native of the American ſeas.

The other ſpecies of the Buccinum are conſiderably numerous; they are, 1. The great, long-tailed, and oblong-mouthed Buccinum. 2. The great, brown and white, contabulated and tuberculous Buccinum. 3. The ſmall, brown, furrowed, long, Buccinum. 4. The long, brown Buccinum, with a duplicated and dentated lip. 5. The long Buccinum, with a narrow body, called the Babylonian Tower-ſhell. 6. The oblong Buccinum, variegated with red ſpots 7. The long-pointed Buccinum, called

called the Perſian veſt. 8. The long, radiated Buccinum, with broad, blackiſh ſpots. 9. The faſciated and undulated Buccinum, with a dentated, hinder lip. 10. The thick Buccinum, with oblong and ſpotted tuberoſities. 11. The long Buccinum, with brown and blue ſpots. 12. The ventricoſe, ſtriated, and ſpotted Buccinum. 13. The Buccinum, with the contabulated or pulvinated clavicle. 14. The long, ſtriated Buccinum, with three tuberous eminences. 15. The long, coſtated, and ſtriated Buccinum. 16. The little Buccinum, with a ſhort tail, and an expanded mouth. 17. The ſhort, hairy Buccinum. 18. The grey, wide-mouthed Buccinum. 19. The ſhort, ſpotted, and lineated Buccinum. 20. The undulated and ſtriated, ſhort Buccinum. 21. The ſhort Buccinum, with a great number of acute tubercles, regularly diſpoſed all over it. 22. The depreſſed, umbilicated Buccinum, with the lip and the columella both dentated. 23. The ſhort, yellow, umbilicated Buccinum. 24. The ſhort, alated, and punctated Buccinum. 25. The ſhort, tuberculoſe Buccinum, with two very high ribs. 26. The rough, furrowed Buccinum, with an oval mouth, and thick lip, and with ſome prominent ribs. 27. The long Buccinum, with a dentated clavicle, called the Chineſe Tower-ſhell. 28. The long Buccinum, with very elegant red and white faſciæ. 29. The long Buccinum, with the clavicle and the lip both dentated. 30. The long Buccinum, with ſhort, undulated variegations. 31. The long, brown Buccinum, with the columella dentated. 32. The long Buccinum, variegated with many brown and yellow faſciæ. 33. The long Buccinum, with red lines and red ſpots. 34. The great triton-ſhell, or inflated Buccinum. 35. The long Buccinum, with an expanded lip, and with many annular, broad lines. 36. The ſtriated Buccinum, with rows of prickly ribs. 37. The reticulated Buccinum, with oblong tubercles. 38. The ſpotted Buccinum, with the clavicle irregularly ſtriated, and the extremity red. 39. The ſhort Buccinum, with the crooked beak. 40. The ſhort, rough Buccinum. 41. The diſtorted Buccinum, with the columella and the lip both dentated. 42. The ſhort Buccinum, with the rim of the mouth expanded. 43. The ſhort Buccinum, with the rim of the mouth prominent, but leſs expanded. 44. The Buccinum, with low and obtuſe tubercles. 45. The rough Buccinum, with elated tubules. 46. The tuberculous Buccinum, with a broad, dentated mouth, and a long, crooked, and furrowed beak, 47. The yellow, tuberous, and ſtriated Buccinum, with the columella and lip ſtriated, and the clavicle depreſſed. 48. The red-mouthed Buccinum, with the clavicle erect. 49. The ſtriated Buccinum, with oblong tubercles. 50. The ſtriated, gold-yellow Buccinum. 51. The elegantly variegated Buccinum, with white, yellow, and brown ſtriæ.

TURBO.

THE Turbo is a ſimple ſhell, having no hinge, and formed of one continued piece; it is long and ſlender, of a figure more or leſs regularly conic, always terminating in a very long and fine point: the mouth is narroweſt toward the baſe, and is aurited; the ſhape is irregular: in ſome it is oblong in others, rounded, broad, or depreſſed; in ſome dentated, in others ſmooth.

Some authors have called theſe Strombi, and many have confounded them with the Buccina. In Engliſh we call them Screw-ſhells; the French, Vis.

Turbo craſſior et ventricoſior ore ſubovato.
The thick ventricoſe Turbo, with an oval mouth.

This is a large ſpecies; we meet with it ſeven inches long, and near two inches in diameter in the largeſt part: it conſiſts of about fourteen volutions, the ten larger are ſufficiently diſtinct; the four extream ones rather confuſed; the loweſt volution is the largeſt, all the others gradually diminiſh from this to the extremity, where it is pointed; they are all rounded on the ſurface or ventricoſe: the ſurface of the ſhell is ſmooth, and the ground colour white; it is beautifully variegated with yellow rays, and with elegant and broad faſciæ, formed of a mixture of blue and brown lines, interrupted by irregular ſpirals of the ſame colours: the mouth is large and wide; the lip thin, and not dentated.

It is abundant in America, and is found alſo in ſome of the European ſhores.

Turbo gracilior ſpiris ventricoſis ore parvo rotundo.
The ſlender Turbo, with ventricoſe ſpires, and a ſmall round mouth.

The Needle-ſhell.

This is a very elegantly formed ſhell; it's length is five or ſix inches; it's diameter, in the thickeſt part, not much more than half an inch; it is largeſt at the extremity, where the mouth is, and hence becomes gradually ſmaller to the other, where it terminates in a point; it conſiſts of about fifteen ſpiral volutions, and they are all bellied or inflated, as it were, their middle riſing very high, and the diviſions between them deep and narrow: the mouth is ſmall, and is nearly round; it is quite ſimple, having only a thin duplicature, with a kind of notch in the place of the ear in the other; the ſurface of the whole ſhell is perfectly ſmooth, there is not ſo much as a line marked any where on it; it's ground colour is white, and it is variegated with yellow.

Turbo gracilior ſpiris ventricoſis ore ovato.
The ſlender Turbo, with ventricoſe ſpires, and an oval mouth.

This is a ſmall ſpecies; it's length is about two inches; it's diameter, in the thickeſt part, hardly ſo much as a third of an inch: it conſiſts of about fourteen volutions, of which the loweſt is much the largeſt, and the reſt decreaſe gradually to the extream one, which is very ſmall and pointed; they are all rounded or prominent on the ſurface, and the furrows are deep that ſeparate them: the mouth is moderately large and oval, and is edged but with a thin lip.

It is very common on the ſhores of the American iſlands.

Turbo ſpiris ventricoſis, coſtis plurimis elevatis.
The ventricoſe-ſpired Turbo, with numerous, elevated ribs.

This grows to an inch and a half in length, and it's largeſt volution is more than a third of an inch in diameter; this, which is the loweſt, is much bigger than the ſucceeding one; the others are gradually ſmaller to the top, where it terminates in a point: there are about ſeven of theſe volutions; they are all rounded or bellied, and are beautifully ribbed, each of them having a number of ſtraight, perpendicular, and very elevated ribs running down it at ſmall diſtances: the whole ſhell is white, as are alſo thoſe ribs; the mouth is round, moderately large, and furniſhed with a thick lip.

It is very frequent on the ſhores of Barbadoes.

Turbo conica ſpiris planis numeroſiſſimis ſtriatis.
The conic Turbo, with plane, ſtriated, and very numerous ſpires.

The Teleſcope-ſhell.

This is the moſt regularly conic, in it's figure, of all the ſhells of this genus: it's length is about four inches, it's diameter at the baſe is an inch and a quarter, and from thence it gradually becomes ſmaller to the ſummit, where it is terminated by a fine point: the volutions are broad toward the baſe, but they become afterwards very narrow, and are very numerous, but indiſtinct: the volutions are all flat, and are ſpirally ſtriated; the colour is a plain brown, deepeſt in the thickeſt part, and almoſt white at the point: the mouth is very oddly formed, it is flat and not large, and the lip runs each way to ſome diſtance beyond it, in the form of a ridge.

It is found in the Eaſt Indies, and in America: ſome parts of Europe alſo have afforded fair ſpecimens of it.

Turbo gracilior ſpiris ſpiraliter ſtriatis.
The ſlender Turbo, with ſpiral lines on the volutions.

This is four or five inches long, and ſcarce half an inch thick in the firſt volution, from this it gradually becomes ſmaller to the extremity, where it terminates in a point: the volutions are all rounded, and the lines between them ſomewhat deep; they are very beautifully

beautifully ſtriated all the way, with deep, continuous furrows following the turn of the ſhell: the mouth is ſmall, and irregularly oval; the lip thin; the colour is yellow, but it is ſometimes very pale, and in ſhells that have lain long on the ſhore, after the death of the animal, it is often white.

It is found in great abundance on the ſhores of Barbadoes, and other of the American iſlands; very beautiful ones have alſo come from the Eaſt Indies.

Turbo ſpiris anguſtis prominentibus diſtantibus.
The Turbo, with diſtant and prominent ſpires.

This is a conſiderably large and very ſingular ſpecies; it's length is about five inches, and it's thickneſs, in the largeſt part, or loweſt ſpire or volution, about three quarters of an inch; from this it gradually diminiſhes to the other extremity, where it terminates in a point: the volutions are about ſeventeen, and are of a very ſingular kind; they are very high, extreamly narrow at the ſurface, and have very deep furrows between them: it's mouth is irregularly rounded, and the lip not large, but a little aurited; it's colour is whitiſh, but with ſome tinge of yellow and of red.

It is a native of the Eaſt and Weſt Indies; the fineſt are from China.

Turbo ſpiris anguſtis planis bullatis.
The Turbo, with narrow flatted, and bullated ſpires.

This is an extreamly elegant ſpecies; it's length is about four inches; it's diameter, in the largeſt part, about half an inch; from this, it gradually tapers to a fine point: it is compoſed of about fourteen ſpires, but the extream ones are very indiſtinct; they are all flatted and undulated in a very elegant manner; but what is moſt ſingular of all in it is, that there runs a ſeries of bullated dots, or protuberances, obtuſe and low, and of a paler colour than the reſt of the ſhell, along the edge of each ſpire: the mouth is large, of a very irregular form, and projects from the reſt of the ſhell; the colour of the whole is a duſky brown.

It is an oriental ſhell, and has not yet been met with elſewhere.

Turbo verrucoſa ore lato depreſſo.
The verrucoſe Turbo, with a broad, depreſſed mouth.

The caterpillar Shell.

This is about two inches and a half long, and near three quarters of an inch in diameter in the largeſt volution; it conſiſts of about twelve of theſe, and terminates in a point: the ſeveral volutions, particularly the larger, are irregularly beſet with obtuſe, and not very tall, protuberances: the mouth ſeems a detached part from the reſt of the ſhell, connected to it by a kind of neck: it is broad and depreſſed, and the lower lip is a little turned back, and both extremities are aurited: it is elegantly coloured; the ground is pale, and there are a great many variegations of a darker colour in it, diſpoſed very beautifully; the protuberances are bluiſh, and give a very happy variation to the reſt.

It is a Chineſe ſhell.

Turbo ore longo hiante.
The Turbo, with a long, gaping mouth.

This is three inches long, and of the thickneſs of one's little finger; it is extreamly ſingular in it's ſtructure, ſcarce at all reſembling any of the other ſpecies of it's genus; it is, indeed, largeſt at the end where the mouth is, and thence becomes gradually ſmaller to the other extremity; but then it conſiſts only of three volutions, of which the firſt conſtitutes almoſt the whole ſhell: the mouth is near two inches long, and is narrow at the lower part, but very gaping toward the extremity of the ſhell, and the lip is alated: it is of a pale browniſh colour, very beautifully variegated with a deeper brown, and with a reddiſh tawny; and it's ſurface is perfectly ſmooth, except that at the rim of the ſecond volution there are a few tubercles.

It is an Eaſt Indian ſhell; ſome have been ſaid to be brought from the American ſhores, but, I am afraid, on no very good foundation.

Turbo faſciis ſpiralibus latis, ore parvo.
The Turbo, with broad, ſpiral faſciæ, and a ſmall mouth.

The ribband, Screw-ſhell.

This is about two inches and a half long, and a little more than a third of an inch in diameter at the larger end, whence it gradually decreaſes till it terminates in a point: the volutions are about ten in number, and are ſomewhat rounded, but not greatly ſo; the lines which divide them are very ſmall; the mouth is of a figure approaching to oval, but ſomewhat irregular, and is ſmall, in proportion to the bigneſs of the ſhell; there run all the way round the volutions a number of broad faſciæ or belts, from five or ſix to two in number; theſe follow the whole courſe of the ſhell, and ſtand but at ſmall diſtances from one another; they are of a darker colour than the reſt of the ſhell, and are very even and determinate at their edges.

It is frequent on the ſhores of the American iſlands.

Turbo muricata ore anguſto obliquo.
The muricated Turbo, with a narrow, oblique mouth.

This is two inches long, and a third of an inch in diameter at the baſe; it is formed into about fourteen volutions, they are flattiſh, or ſomewhat hollowed inward, toward the baſe; their outer edge is more prominent, and is all the way armed with a ſeries of very robuſt and large ſpines, with ſomewhat obtuſe extremities: the mouth ſeems a detached part from the body of the ſhell, and is connected by a kind of neck; it is of a very ſingular figure, oblong, oblique, and narrow.

It is not uncommon on the coaſts of Italy.

Turbo ore oblongo labiato, ſpiris ad marginem crenulatis.
The oblong-mouthed Turbo, with the ſpires crenulated at the edges.

This is about two inches long, and a third of an inch thick at the baſe: the mouth is ſmall, of an oblong figure, wideſt in the middle, and furniſhed with a broad lip: the ſhell conſiſts of about fifteen volutions; the firſt of them is ſomewhat ventricoſe, the reſt are flat, and they are all crenulated at the edge: the colour of the ſhell is a faint brown, with ſome variegations of tawny and reddiſh, and with ſome regular ſeries of little black dots: the crenulated edges alſo are paler than any other part, and make a variegation.

It is not uncommon on the American ſhores, and has been found in ſome parts of Europe.

Turbo craſſior ſpiris ad marginem profunde crenatis aurita.
The thick, aurited Turbo, with the volutions deeply crenated at the edge.

This is three inches in length, and in the largeſt part is not leſs than an inch in diameter: it conſiſts of about eleven volutions, which are all, except the firſt, flat, and have their edges very deeply and very elegantly crenated: the whole ſurface of the ſhell is ſmooth; the colour is a pale whitiſh, variegated with irregular ſpots of a darker hue, and the extremities of the ſpires, where the denticulations are paler than any other part, and ſometimes are quite white: the mouth is oblong and narrow, and is remarkably aurited.

It is a native of the Eaſt Indies; we have alſo had it from the ſhores of Carolina.

The other ſpecies of the Turbo are, 1. The very ſlender Turbo, with a long, narrow mouth, and a rugoſe columella. 2. The elegant, ſlender Turbo, with a large lip, and with blue variegations. 3. The ſlender Turbo, with longitudinal ſtreaks of yellow, called the Owl-ſhell. 4. The thicker Turbo, with variegations in the form of punctated circles. 5. The very ſlender Turbo, with a great variety of dark ſpots, and dark lines. 6. The ſlender, whitiſh Turbo, with a great variety of lines and ſpots of a tawny yellow. 7. The white, larger, reticulated, and granulated Turbo. 8. The variegated, ſlender Turbo. 9. The ſlender Turbo, with a dentated mouth, and rugoſe columella. 10. The contabulated and elegantly faſciated Turbo. 11. The belted

belted Turbo, called the Child in ſwaddling cloaths. 12. The pyramidal Turbo, with a depreſſed mouth. 13. The thicker, white Turbo, elegantly lineated with yellow. 14. The beautifully, variegated Turbo, called the Chineſe obeliſk. 15. The elegantly variegated Turbo, with circles of elate tubercles. 16. The oblong, thick, Chineſe Turbo, with fine lines, and little granulations between them. 17. The whitiſh, long-mouthed, ſimple Turbo. 18. The plane, yellowiſh Turbo. 19. The virgated and lineated, brown and yellow Turbo. 20. The long Turbo, with a large, depreſſed, aurited mouth. 21. The white, roſtrated Turbo, with many ſpires and tubercles on the edges of them. 22. The large, oval-mouthed, yellow and white Turbo. 23. The narrow-ſpired Turbo, with elegant variegations of black, yellow, and red, in lines. 24. The greyiſh Turbo, with an elegantly variegated clavicle. 25. The ribband Turbo, with purple faſciæ on a bright yellow ground. 26. The deeply-ſulcated, round-mouthed Turbo. 27. The whitiſh, ſinuated, many-ſpired Turbo. 28. The elegantly, variegated, white and yellowiſh Turbo. 29. The ſlender Turbo, with furrowed lines. 30. The brown Turbo, with ſtriated lines. 31. The ſlender, aurited Turbo. 32. The very ſlender, black, and yellow Turbo.

VOLUTA.

THE Voluta is a ſimple ſhell, having no hinge, formed of one piece, and of a figure approaching to conic, but ſhort; the clavicle being uſually depreſſed, in all very ſhort: the mouth is long, perpendicular, and narrow: the animal inhabiting this ſhell is a limax.

Authors, who have written on theſe ſubjects, have in general called theſe ſhells Rhombi; but as Rhombus is the name of a mathematical figure, which has nothing to do with that of this ſhell, as not at all reſembling it in ſhape, it is better cancelled then preſerved.

Some of the moſt beautiful, as well as of the ſcarceſt and deareſt ſhells we know, are of this genus.

Voluta faſcia lata flava, linea punctata inſignita.
The Voluta, with a broad, yellow faſcia, with a punctated line in it.

The Admiral Shell.

This is one of the ſcarceſt and one of the moſt beautiful ſhells we are acquainted with; the extream rarity of the ſpecies occaſions people picking up a ſhell of it, under whatever diſadvantages of decay or wear; and hence it is that we ſee ſome, the colours of which are ſo faded, that we are apt to wonder at the price they have been ſold at, and the admiration with which people ſpeak of them; but we ought to ſee a perfect and fine ſpecimen of it, before we paſs our judgment.

It is about two inches long, and near an inch in diameter toward the head; from this part to the extremity of the mouth it decreaſes gradually in ſize, ſo as to form a kind of cone with an obtuſe point; the clavicle is carried up from the ſame part much diminiſhing in diameter, and terminates in an obtuſe point; it is nearly equal to one third of the length of the body of the ſhell, which is longer than the generality of the Volutæ have it: the ground colour of the ſhell is a very bright and elegant yellow, very much reſembling the ground colour of the Syenna marble; the variegations, however, take up ſo much room, that this ground colour is not ſeen in the proportion of more than a third of the ſurface: there is a circle of it viſible at the head, of about the breadth of a large ſtraw; below this there are three broad faſciæ, or circles of elegantly varied colouring; the loweſt of the three is ſomewhat broader than the others, and they are all ſeparated by five lines of the ground colour. Under theſe three circular lines, the fine yellow of the ground colour ſhews itſelf again, in the form of a broad faſcia; and in the center of this there runs a narrow, punctated line, of the ſame colours with the other variegations; this line is what diſtinguiſhes, and is the characteriſtic of, the Admiral ſhell, the Vice-admiral having moſt of it's other characters, but wanting this: under this broad yellow faſcia there runs another equally broad, of the ſame variegations; and, from the verge of this to the extremity of the ſhell, the yellow or ground colour prevails again: the clavicle is elegantly variegated with the ſame colours, in a beautiful irregularity, and with a peculiar brightneſs.

It is an Eaſt Indian ſhell, and is highly eſteemed, whenever it falls into the way of collectors.

Voluta faſcia lata flava ſimplici.
The Voluta, with a broad, ſimple, yellow faſcia.

The Vice-admiral Shell.

This is an extreamly elegant ſhell, and, as it much reſembles, ſo it very nearly comes up to the beauty of the former ſpecies: it is ſomewhat more than two inches in length, when full grown, and is about an inch in diameter at the head; the clavicle is rather taller than in the admiral, and has about ten volutions: the ground colour is a bright and ſtrong gold yellow, and the variegations are of the ſame beautiful admixture of colours with thoſe of the other, but they have more white in them: there is a line of the ground colour or yellow at the head, of the breadth of a ſtraw; below this there is a circular line of the variegations, about equal to it in breadth; under this is a ſomewhat narrower line of the yellow, but not pure; and under that a very broad line of the variegations: below this there ſtands a broad line or faſcia of yellow, as in the admiral, but without the punctated line, which in that ſhell runs through the middle of it; after this there is another broad faſcia of the variegations, and then the point of the ſhell, which is alſo yellow: the clavicle is very beautifully clouded with the variegations.

This is alſo a native of the Eaſt Indies, and bears a very great price in auctions, and a very high rank in the cabinets of collectors.

Voluta albida variegata, faſciis duabus luteis.
The whitiſh, variegated Voluta, with two yellow faſciæ.

The falſe Admiral-ſhell.

This is a beautiful ſhell, and is ſhewn in ſome collections as the admiral-ſhell, but it is vaſtly inferior to that elegant ſpecies: it is about an inch and a half in length, and half an inch in diameter at the head; the body is conic, though but very little tapering; and the clavicle is not quite ſo tall in proportion, as in the two former: the ground colour of this ſhell is a duſky whitiſh, variegated with ſeveral faint colours; and there are two broad faſciæ of a beautiful yellow ſurrounding it, the one near the point, the other a little higher than the middle: the whole ſurface is ſmooth, and the mouth narrow.

It is a native of the Eaſt Indies, and is principally brought to us from China; when it is in perfection, it is a very elegant ſhell, but the colours are very apt to be decayed and dead.

Voluta rubra maculis magnis albis variegata.
The red Voluta, with large, white ſpots.

The Tiger-ſhell.

This is a very elegant ſhell: it is about two inches and a half in length, and an inch and a quarter in diameter; it's mouth is very long, but narrow; and it's clavicle has only about four turnings, and is very little elevated: the ground colour of the ſhell is a duſky red, and it is ſpotted all over with large, irregular blotches, as it were, of white; ſome of them are oblong, others irregularly angulated and indented.

It is a ſcarce ſhell, we have it only from the Eaſt Indies; the next ſpecies is by many called by it's name, but is greatly inferior to it.

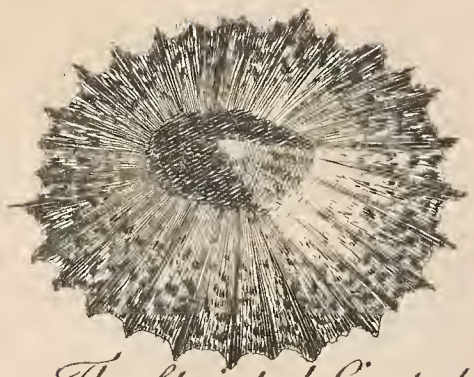
Voluta flava maculis minoribus albis variegata.
The yellow Voluta, with ſmaller, white ſpots.

The yellow Tyger-ſhell.

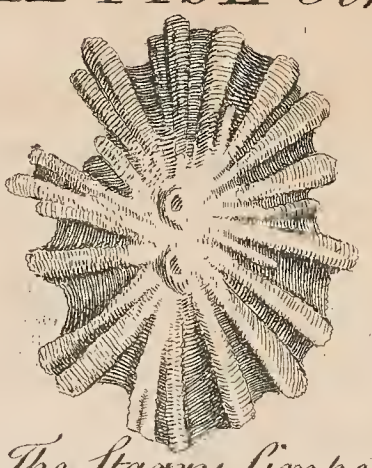
This is alſo a very elegant ſhell, but it is greatly inferior to the former: it's length is about two inches and a half; it's thickneſs ſomewhat more than an inch and a half at the head, and it thence gradually diminiſhes, in a conic form, to the aperture of the mouth: the clavicle conſiſts of about ſix volutions, and is carried to a fine point at the top, but it is not very high: the ground colour of the ſhell is yellow, and it is very beautifully variegated with white ſpots; theſe are of an irregular figure, and not very large, few of them exceeding the bigneſs of a pea.

It

Patellæ



The Striated Limpet



The Starry Limpet

Limpets

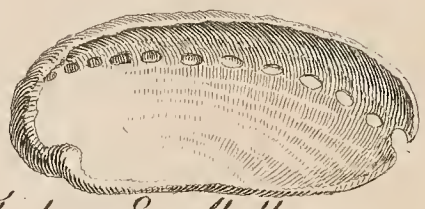


The Beaked Limpet

Haliotis



The great Ear Shell



The long Ear Shell

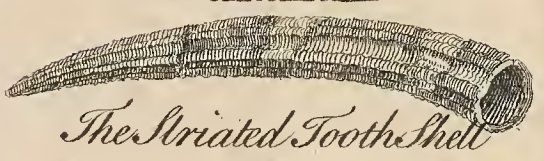


Stomatius Sp. 2

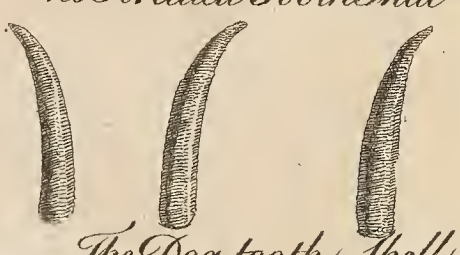


Dentalium Sp. 1

Dentalium

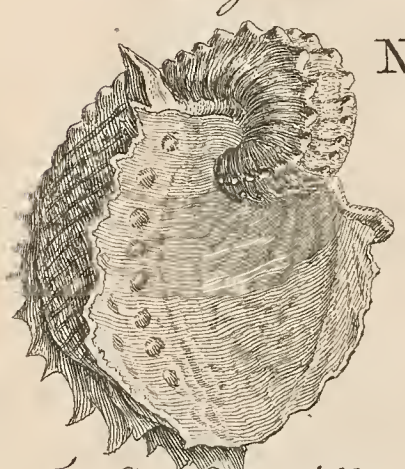


The Striated Tooth Shell

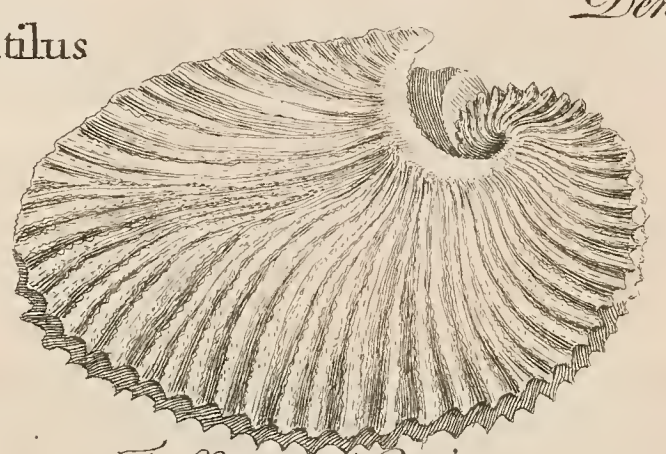


The Dog tooth Shell

Nautilus



The Auriculated Paper Nautilus



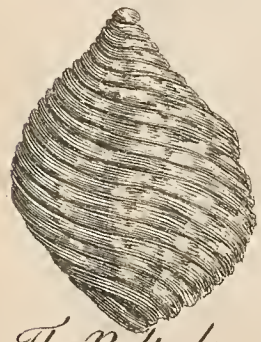
The Paper Nautilus



The little thick Nautilus

Cochleæ

Snails



The Belted Snail



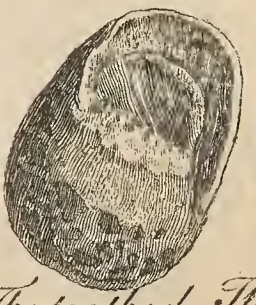
The Golden Mouth'd Snail



The Echinated Cochlea



The wide Mouth'd Snail



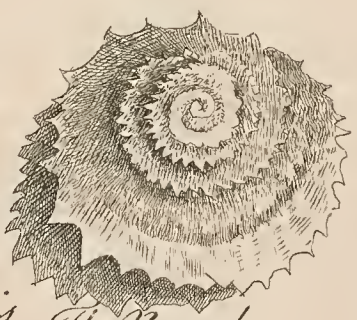
The toothed Nerite Snail



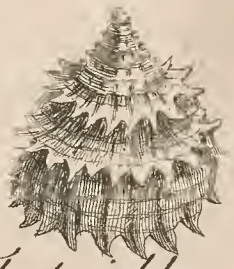
The prickly Snail



The Cornu Ammonis Snail



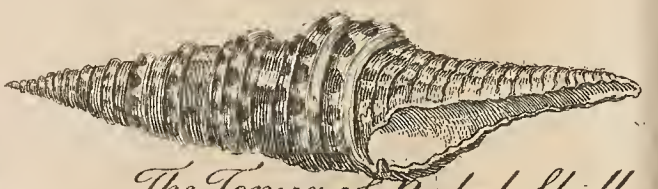
The Rough Trochus



The prickly Trochus



The Mitre Shell



The Tower of Babel Shell



The rough Mouth'd Buccinum



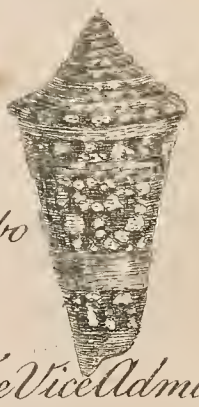
The Needle Shell



The long Mouth'd Turbo



The rough Screw Shell



The Vice Admiral



The Admiral



The Tyger Shell

B. Cole Sculp.

It is a native of the Eaſt Indies, and is frequently kept in collections, under the name of the Tyger-ſhell.

Voluta albeſcens maculis nebuloſis ſubrubentibus.
The white Voluta, with clouded, reddiſh variegations.

This is a very beautiful ſpecies; it is about two inches, or little more, in length, and more than an inch wide at the head: the clavicle is moderately exerted, but it is obtuſe at the extremity, and has only about four or five volutions, and thoſe not diſtinct: the ground colour is a faint white, and the variegations are of a duſky reddiſh; they are large, and are of an extreamly irregular figure, very indiſtinct at the edges, and diſpoſed without any order on the ſhell.

We have it both from the Eaſt and Weſt Indies, and it is a ſhell of value; the French, from the odd diſtribution of the variegations, call it the Spectre-ſhell.

Voluta coronata zonis latis flavis variegatis.
The coronated Voluta, with two broad, variegated zones.

The Crown Imperial-ſhell.

This is a very ſingular, as well as a very beautiful, ſhell: it is three inches long, and barely an inch and a half in diameter at the top: the clavicle is ſo depreſſed, that in a front view of the ſhell it is not at all viſible: the head is ſurrounded with a very beautiful ſeries of tubercles, pointed at their extremities: the ground colour is pale, and there are two broad and very beautiful zones running round it; the one near the head, the other toward the other extremity; theſe are of a fine yellow, but variegated in an elegant manner with black and white.

It is frequent on the coaſts of the Eaſt Indies, but few arrive here that are in perfection.

Voluta albeſcens nigro variegata.
The white Voluta, variegated with black.

The Hebrew Letter-ſhell.

This is a ſmaller ſhell than moſt of the others of this genus: it rarely exceeds an inch and a quarter in length, or three quarters of an inch in diameter at the top; it's body is pretty regularly of a conic figure, and it's clavicle exerted, and has many volutions, five at leaſt, and is obtuſe at the extremity: the ground colour of the ſhell is a pearly white, and it is all over variegated with large and very irregular marks of black; they are diſpoſed in about four ſeries on the body, and in a ſingle row on each of the volutions of the clavicle, and are ſuppoſed to have ſome reſemblance of the Hebrew characters.

It is found in the Eaſt and Weſt Indies; and when perfect, and finely coloured in the ground, is an elegant ſhell.

Voluta albida maculis fuſcis et purpuro-cæruleis variegata.
The whitiſh Voluta, variegated with brown and purpliſh blue ſpots.

This is a very elegant and a very large ſhell, for one of this genus: it is often near four inches in length, and more than two in diameter at the head; from hence the body tapers but very gradually, and is large and obtuſe at the extremity; and the clavicle the other way, though it is formed of ſeven or eight volutions, is not much elated, and is obtuſe at the extremity: the ground colour of the ſhell is white, but it is very elegantly variegated with ſpots of different ſizes, diſpoſed principally in circles round it; there are no leſs than twenty or thirty of theſe circles on the ſhell, and the ſpots which form them are ſome of them brown, and others of a deep purpliſh blue.

We have it from the coaſt of Guinea.

Voluta

Voluta ſemi-coronata ſuperficie undulata.
The ſemi-coronated Voluta, with an undulated ſurface.

This is the moſt ſingular of all the ſhells of this genus, and is not without it's beauty: it more approaches to the crown imperial than to any of the other ſpecies, but differs abundantly from that in many reſpects: it is about two inches and a half in length, and is near an inch and three quarters in diameter at the head: the verge of this is deeply indented, ſo as to form a kind of corona or crown, with the denticulations, but they are ſhort, low, and obtuſe at the points: the clavicle conſiſts but of a few volutions, and is obtuſe at the point; the whole ſurface of the ſhell is undulated, or is marked with a number of longitudinal, but not ſtraight, furrows, placed at the diſtance of a ſtraw's breadth from each other, and the ridges between theſe form a kind of undulations: the colour of the ſhell is white, and the variegations are irregular, and of a faint brown.

We have it from the African coaſt.

Voluta tenuior clavicula longa.
The ſlender Voluta, with a long clavicle.

This is a very ſingular and very beautiful ſhell: it is about two inches in length, and hardly three quarters of an inch in diameter at the head: from this part the body forms a kind of cone, tapering very regularly to a point; and the other way the clavicle is long, very ſlender, and formed of ten or twelve volutions, terminating in a ſharp point; this ſingular ſtructure of the ſhell is attended with a ſingular colouring: the ground colour is white, and ſhews itſelf on the body, in the form of three zones, conſiderably broad and variegated, with purple ſpots and lines; between theſe are two other zones, which are alſo broad, and are of a beautiful orange colour.

We have it from the Eaſt Indies but rarely.

Voluta punctata faſciis tribus anguſtis oculatis.
The punctated Voluta, with three narrow, oculated faſciæ.

The Butterfly-ſhell.

This is one of the moſt elegant of this beautiful genus: it is three inches long, and about an inch and three quarters broad in the largeſt part, or at the head; the body from this forms a tolerably regular cone, tapering very gradually, and but obtuſely pointed; the clavicle has five or ſix volutions, and is pointed at the extremity, but it is not very prominent: the ground colour of the ſhell is yellow; it is all over beautifully variegated with ſmall, brown ſpots, formed into regular, round ſeries: there are three very beautiful faſciæ or bands round the body, and one narrower near the head; theſe are formed of continued large ſpots, formed of a deeper brown, a paler brown, and white, and they reſemble nothing ſo much as the ſpots in the form of eyes, upon the wings of ſome of the butterflies.

This is an Eaſt Indian ſhell, and is a very rare one; we have it in ſome of our cabinets.

The other ſpecies of the Voluta are, 1. The orange-coloured Voluta, variegated with purple. 2. The large-headed, ſhort Voluta, called the Turnep-ſhell. 3. The brown, elegantly-lineated Voluta. 4. The pale Voluta, with flame-coloured ſpots. 5. The elegantly-ſpotted and variegated Voluta, called the Guinea-ſhell, or the Speculation-ſhell. 6. The reddiſh, faſciated, and ſtriated Voluta. 7. The yellow Voluta, variegated only with ſmall ſpots. 8. The brown Voluta, with two broad zones of white. 9. The duſky brown Voluta, called the Bat-ſhell. 10. The large, whitiſh Voluta, with ſmall yellow ſpots, and innumerable punctules of the ſame colour. 11. The black-ſpotted Voluta, called the black Leopard-ſhell. 12. The yellowiſh Leopard-ſhell. 13. The reddiſh Leopard-ſhell. 14. The faſciated Voluta, with yellow and whitiſh ſpots. 15. The agate-coloured, virgated Voluta. 16. The yellow Voluta, with a white faſcia. 17. The elegantly-variegated Voluta, called the Onyx-ſhell. 18. The greeniſh Voluta, variegated with numerous ſpots, and with two variegated faſciæ. 19. The coronated Voluta, variegated with brown. 20. The coro-

nated Voluta, with obſcure faſciæ. 21. The coronated Voluta, with marbled, black variegations. 22. The ſtriated and coronated Voluta. 23. The cancellated and elegantly variegated Voluta.

CYLINDRUS.

THE Cylindrus is a ſimple ſhell, without a hinge, formed of one continued piece, and of a figure approaching to a cylinder: when it departs any thing from that, it is not largeſt at the head as the voluta is, but, toward the middle, the mouth is always long and narrow.

The animal inhabiting the Cylindrus is a limax.

The clavicle in this ſhell is, in ſome ſpecies, continuous with the body, in others it is divided from it by a kind of circle, and in ſome it is coronated: the columella is ſmooth in moſt, but in ſome it is rough.

Cylindrus craſſior coronatus albeſcens, fuſco variegatus.
The thick, coronated Cylindrus, of a ſilvery white colour, variegated with brown.

The Brocade-ſhell.

This is a large and elegant ſhell: it is three inches and a half in length, and near two and a quarter in diameter, and is nearly of the ſame thickneſs in the whole body, only diminiſhing a little at the two extremities: the head is denticulated or coronated, but the denticulations are not ſharp; the clavicle has four or five turns, and is terminated by a point: the ground colour of the ſhell is a ſilvery white, and it is beautifully variegated with a bright brown, in fine irregular lines, clouds, and blotches; the whole ſurface of the ſhell has a naturally fine poliſh, and the ground-work and variegations have much the appearance of a fine brocade.

We have it from the coaſts of the warmer parts of America, and ſometimes from thoſe of Africa.

Cylindrus craſſior albeſcens, cæruleo et fuſco variegatus.
The thick, white Cylindrus, variegated with blue and brown.

The tulip, Cylinder-ſhell.

This is a very beautiful and a very ſcarce ſhell: it is about three inches long, and two in diameter, but it is not ſo regularly of a cylindric figure as ſome of the others; it is largeſt a little below the head, and thence grows gradually ſmaller to the other extremity: the clavicle has ten or twelve volutions, but it is not very much elated, and terminates in an obtuſe point: the ground colour of the ſhell is whitiſh, but the variegations, which are partly blue, and partly brown, are very beautifully thrown into irregular clouds, and with larger and ſmaller ſpots.

It is a native of the Eaſt Indies, and is but ſeldom brought over to us, eſpecially in any tolerable ſtate of perfection, and brightneſs of colour.

Cylindrus tenuior purpuro et albo variegatus.
The ſlender Cylindrus, variegated with white and purple.

The Porphyry-ſhell.

This is about two inches and a half in length, and an inch and a quarter in thickneſs; it is pretty regularly of a cylindric figure, and the clavicle is ſhort and obtuſely pointed: the colour of the ſhell is a pale whitiſh, with a caſt of red, and it is all over clouded with variegations of a deeper red, approaching to purple: this purple, though not the ground colour, takes up the far greater part of the ſurface, and the white, which is the true ground colour, is ſcarce any where ſeen without a greater or leſſer tinge of the red in it: the purple is, in moſt parts of the ſhell, formed into irregularly longitudinal and dentated lines.

It is brought to us from the coaſts of South America.

Cylindrus tenuior albidus fuſco variegatus.
The ſlender, whitiſh Cylindrus, variegated with brown.

This is three inches and a half in length, and ſcarce an inch and a quarter in diameter; it is of a tolerably regular cylindric figure, but is ſomewhat ſmaller toward the point than elſewhere, and a little, though very little leſs at the head, than ſomewhat lower down: the clavicle has five or ſix volutions, and is pointed; the ground colour is whitiſh, but is very elegantly variegated with brown, diſpoſed in narrow and irregular lines, and in great irregular ſpots, covering a very conſiderable part of the ſurface. We have it from the coaſts of South America: the Dutch call it the Brunette.

Cylindrus albeſcens zonis literatis.
The white Cylindrus, with lettered zones. **The Letter-ſhell.**

This is one of the ſmaller Cylinders: it rarely exceeds an inch and a quarter in length, and is leſs than half an inch in diameter: the clavicle has four or five volutions, and the body of the ſhell is ſplit at the other extremity, by the continuation of the mouth: the ground colour is white, which is preſerved tolerably pure over a great part of the body, but near each extremity there is a broad zone; theſe are not of one continued colour, but are lineated and variegated in ſuch a manner, that fanciful people have ſuppoſed themſelves able to make out evident letters, in particular, the capitals B, D, and A frequently repeated in them.

We have it both from the Eaſt Indies, and South America; but few of thoſe brought over are in high perfection.

Cylindrus tenuior fuſco et albo variegatus.
The ſlender Cylindrus, variegated with brown and white.

This is an extreamly elegant ſhell: it grows to three inches long, and about an inch and a quarter in diameter: it's figure is nearly cylindric, the two ends being only a very little ſmaller than the middle; the clavicle has four or five volutions, but is not much elated, and terminates obtuſely: the colours are only two, a bright white, and a pale tawny brown; they each take up ſo great a ſhare of the ſurface, that it is not eaſy to ſay which is the ground colour; and they are diſpoſed in a beautiful manner in denticulated lines: the whole ſurface has a fine natural poliſh, and the colours have a ſingular brightneſs.

It is brought to us from South America.

The other ſpecies of the Cylindrus are, 1. Of thoſe which have the clavicle continuous with the body, or not ſeparated by a depreſſed circle; 1. The elegant, yellow Cylindrus, called the Gold-brocade ſhell. 2. The elegant, white Cylindrus, called the Silver-brocade ſhell. 3. The pale, lemon-coloured, variegated Cylindrus. 4. The faſciated, large Cylindrus. 5. The Cylindrus, blotched with yellow and white. 6. The cancellated or reticulated Cylindrus. 7. The Cylindrus, with the variegations repreſenting feathers. 8. The elegant Cylindrus, variegated with blue. 9. The granulated Cylindrus, with a great multitude of ſpots, and little punctules. 10. The elegant, pale, yellow, granulated Cylindrus. 11. The duſky brown, and ſilvery-white, variegated Cylindrus.

2. Of thoſe which have the clavicle ſeparated, as it were, from the body of the ſhell by a circle, there are, 1. The elegantly variegated, brown and yellow Cylindrus. 2. The pale Cylindrus, with clouded and lineated brown ſpots. 3. The white Cylindrus, with duſky blackiſh, nebulous ſpots. 4. The pale brown and purple Cylindrus.

3. Of thoſe which have the clavicle coronated, there are, 1. The fine, brown and white, ſatteny Cylindrus. 2. The fine, ſilvery, variegated Cylindrus. 3. The pale brown, variegated, gloſſy Cylindrus. 4. The ſilvery and brown Cylindrus.

4. Of thoſe which have the columella not ſmooth, as it is in all the others, but wrinkled or rugoſe, there are, 1. The greeniſh, olive Cylindrus. 2. The greyiſh, agaty Cylindrus, with variegations on the lower part. 3. The white Cylindrus, variegated with purple and brown. 4. The purple Cylindrus, ſpotted with white. 5.

The

The dark, blackiſh, olive Cylindrus. 6. The yellow-olive Cylindrus. 7. The elegantly variegated, olive Cylindrus. 8. The olive Cylindrus, with the lower part variegated with brown. 9. The elegant, violet, Panama Cylinder. 10. The white Cylinder, with yellow lines.

MUREX.

THE Murex is a ſimple ſhell, without any hinge, formed of a ſingle piece, and beſet with tubercles or ſpines: the mouth is large and oblong, and has an expanded lip, and the clavicle is rough.

The animal, which is the inhabitant of this ſhell, is a Limax.

The clavicle is in this genus ſometimes exerted, ſometimes depreſſed; and the mouth in ſome of the ſpecies is dentated, and in others ſmooth; the lip alſo in ſome is digitated, in others elated, in ſome laciniated; and the Columella in ſome is ſmooth and even, and in others rugoſe.

Murex per totum echinatus albeſcens nigro variegatus.
The whitiſh murex, echinated all over, and variegated with black.

The Hedge-hog Murex.

This is a very ſingular and very elegant ſhell: it is three inches and a half in length, and about two and a half in diameter in the largeſt part: the clavicle is exerted and pointed, and the body of the ſhell approaches to a conic form. It's colour is whitiſh, and it's whole ſurface is wrinkled with circular furrows: it is ſurrounded alſo with a number of ſeries, of long, erect, robuſt, and ſharp ſpines; and the clavicle has alſo protuberances of the ſame kind on it's ſeveral volutions, but they are not ſo long, and are more obtuſe at the end: theſe ſpines are all black, and there are alſo ſome other black variegations on the intermediate parts of the ſhell, which give it a great deal of beauty, as well as ſingularity, in it's appearance.

It is brought to us from the coaſt of Africa, and from the Eaſt Indies.

Murex variegatus corpore echinato, clavicula lævi.
The variegated Murex, with the body of the ſhell echinated, and the clavicle ſmooth.

This is two inches and a half in length, and near two inches in diameter in the broadeſt part: it's ground colour is a browniſh-white, but it is variegated with a very deep colour, ſeemingly formed of a mixture of brown, olive, and purple. On the body of the ſhell, there ſtand three rows of ſpines, placed at conſiderable diſtances from one another, but connected by a ridge: the clavicle has about five volutions, and is ſmooth: the dark colour is diſpoſed in ſuch abundance on the ſhell, that it ſeems at firſt view the ground colour: the ſpines are white, and add greatly to the beauty of the ſhell.

It was firſt brought to us from the African coaſt, but we have it now from ſome of the ſhores of the Mediterranean.

Murex ſpinis excavatis, corpore rugoſo inermi.
The Murex, with hollowed ſpines, and with a naked rugoſe body.

This is a very ſingular and very elegant ſpecies: it is about two inches and a half in length, and, in the largeſt part, is nearly an inch and a half in diameter: the clavicle conſiſts of about nine elegantly diſtinct volutions, the two lower of which have each a ſeries of imperfect ſpines on them: the body of the ſhell is bellied, or diſtended, and has a number of deep longitudinal furrows on it: toward the top, or end, next the clavicicle there are two ſeries of ſpines placed near one another; they are ſhort, of a conic figure, and hollowed: the body of the ſhell is then naked, till within half an inch of the other extremity, where there is another ſingle row of them.

It is brought to us from the Eaſt Indies, but it is a very rare ſhell.

Murex

Murex heteroſtrophus clavicula depreſſa.
The heteroſtrophus Murex, with a depreſſed clavicle.

The left-handed Murex.

This is alſo a very ſingular ſpecies. It is near three inches in length, and about an inch and a half in diameter at the head: from thence it becomes gradually ſmaller to the extremity, where it is terminated in a ſharp point: the mouth is very large, it reaches the whole length of the ſhell, and is very wide at the head: the clavicle has about ſix volutions, but it is depreſſed: the colour is a pale whitiſh-brown, with a caſt of reddiſh; but the great ſingularity of the ſhell is, that it is all the way turned in a contrary direction to the others, and conſequently it's mouth opens the wrong way.

It is a rare ſhell; we have it from the South Seas.

Murex labio expanſo rugoſus.
The rugoſe Murex, with an expanded lip.

The Spider-ſhell.

This is about three inches in length, and, meaſuring from the moſt extended part of the lip, is nearly as much in diameter: the colour is a pale yellowiſh-brown, with ſome variegations: the clavicle is long, and has about ſix volutions, which are broad and elegant: the whole body is elevated, at different diſtances, into a kind of rounded ridges; the lip is very far expanded, and theſe ridges are all continued through it, and even project beyond the reſt of it's edge, forming what have been called a number of feet; and the ſpecies, from that, the many-footed Spider-ſhell: The mouth is very large, and the extremity of the ſhell ſmall and turned up.

We have it in great plenty from the Weſt Indies; and it has been found, though ſmaller and leſs beautiful, on the coaſts of the Mediterranean.

Murex tuberculoſus labio quinque dentato, extremitatibus attenuatis.
The tuberculoſe Murex, with five teeth on the lip, and attenuated ends.

The Scorpion-ſhell, commonly called the Spider-ſhell.

This is an extreamly ſingular ſpecies. It is five inches in length, and more than three in diameter: it's general colour is yellowiſh, but it is ſlightly variegated with a duſkier colour: the mouth is very long and wide, and the inſide of the lip and the columella are ſometimes only reddiſh; but, when the ſhell is in it's greateſt perfection, they are variegated with a fine violet colour, and white: the clavicle is ſhort, and in a front view of the ſhell is not at all ſeen: the whole ſurface of the ſhell is covered with tubercles, and, at each extremity of the mouth, is carried into a long and ſlender point: the whole verge of the lip is crenated in an irregular manner, and there are five oblong protuberances, reſembling thoſe of the two ends of the mouth.

It is brought to us from the coaſts of the Eaſt Indies, and ſome parts of America.

Murex labio protenſo corniculis ſex longioribus armato.
The protended-lipped Murex, with ſix long cornicles.

The ſix-legged Spider-ſhell.

This grows to three inches in length, and two and a half in diameter: the clavicle has about ſix volutions, but they are not very diſtinct: the general colour is a tawny brown, variegated with ſome darker clouds, and with a little fleſh colour and white: there are a few obtuſe and low tubercles on different parts of the body; and from the back of the protended part of it there ariſe ſix long and very remarkable protuberances, reſembling ſo many horns; of theſe, thoſe next the head of the ſhell are longeſt, but thoſe toward the oppoſite extremity are uſually ſharper-pointed, and ſomewhat crooked; the mouth is very large, and of an elegant fleſh colour within.

We have this ſpecies out of the Mediterranean; the French call it the Araigna, and the Lambis: it is not common in our cabinets.

Murex coſtatus clavicula tuberculoſa.
The coſtated Murex, with the clavicle tuberculoſe.

This is a large and a very ſingular ſpecies: it is four inches or more in length, and more than two in diameter at the head; from thence the body gradually grows ſmaller to the extremity, where it is ſplit a little way, by the continuation of the mouth: the clavicle is long, and has about eight volutions, of which, the lower ones have each a ſeries of tubercles, which on the firſt and ſecond make a kind of corona: the whole ſurface of the body ſhell is elevated at ſmall diſtances into longitudinal ribs, and is of a yellowiſh-brown, very beautifully variegated with lines of a darker colour, diſpoſed ſo, as to give it much the appearance of the veins of wood; whence the French have called it Le Bois vené.

It is a rare ſhell; we have it from the ſhores of South America.

Murex obſcure coſtatus, zonis ſtriatis.
The obſcurely coſtated Murex, with ſtriated zones.

The ribbed Muſic-ſhell.

This is about two inches long, and is near an inch and three quarters in diameter: the body of the ſhell is ſhort, and is elevated at conſiderable diſtances into ſeveral broad and low ribs: the clavicle is long, elegant, and formed of ſix or eight volutions. The ground colour of the ſhell is a whitiſh-brown, and is elegantly ſurrounded with three or four zones, each formed of four or five ſlender and even, black lines, with ſpots of blackiſh and reddiſh between them, reſembling very much the lines in which muſic is written, with the marks of crotchets, &c. A French writer has gone ſo far, as to prick down a tune, which he pretends to have found on a ſhell in one of the cabinets in that kingdom; and there is thus much in his favour, that, though it make a very pretty figure on the ſhell, it is but bad muſic.

We have this ſpecies from the Eaſt Indies.

Murex coſta ſimplici majuſcula dorſali.
The Murex, with a ſingle, large, dorſal rib.

This is one of the ſmaller Murices: it does not exceed an inch and a half in length, and is about an inch in diameter: the body of the ſhell is inflated, and approaches to an oval form: the opening of the mouth is long and wide, and the lip is bordered with a thick edge: the clavicle is ſhort, and has about five volutions; the one bellied or rounded: along the middle of the back, there runs a longitudinal rib, which is large and thick, rounded at the ſummit, and very like the thick edge of the lip: the reſt of the ſurface is ſmooth, and the colour is a fine horn colour, variegated with brown.

We have this from ſeveral parts of the Eaſt Indies, but it is not common in our cabinets.

Murex tuberculoſus labio protenſo bidentato.
The tuberculous Murex, with a protended, bidentated lip.

This is a ſmall ſpecies; it rarely exceeds an inch and a half in length, and, meaſuring from the moſt protended part of the lip, it is at leaſt as much in diameter: the clavicle is long, and compoſed of five volutions; the lower one ſo continuous with the body of the ſhell, that it is not eaſy to determine where it ends: the colour is a duſky brown, with a few paler variegations; the inſide of the mouth is whitiſh, or reddiſh: the whole ſurface of the body of the ſhell is ſurrounded with round tubercles, ſmall, and diſpoſed in ſeries; there are about four or five of theſe ſeries, and the tubercles are paler than the reſt of the ſhell: the mouth is very wide, and the lip protended a great way, and armed with two points; the one at the extremity, the other toward the middle.

Murex tuberculis maximis craſſis obſitus.
The Murex covered with large, thick tubercles.

This is a ſmall ſpecies, but the tubercles on it are remarkably large: it is rarely more than an inch and a quarter in length, and is equal to that at leaſt in diameter, including the ſpines in the meaſure; the clavicle is ſhort, and conſiſts of a conſiderable number of volutions: the tubercles are arranged in four or five ſeries, and are large and obtuſely pointed: the whole ſurface is variegated with a violet blue, a deep purple, and brown.

We have it from the Eaſt Indies; but moſt of thoſe we receive, having been long on the ſhore without the animal, are deficient in the colours.

The other ſpecies of the Murex are very numerous, and may be conveniently arranged under certain ſubdiviſions, according to their ſeveral particular variations.

1. Of thoſe which have the body of the ſhell beſet with tubercles and ſpines, there are, beſide the before deſcribed, 1. The Murex, with a depreſſed clavicle, the body covered with large, black ſpines. 2. The long, clavicled, greyiſh Murex, with black ſpines, and a plicated ſurface between them. 3. The bluiſh, echinated Murex, with a depreſſed clavicle. 4. The brown Murex, with four ſeries of obtuſe ſpines. 5. The whitiſh, plicated Murex, with two rows of ſpines. 6. The brown and blue Murex, with three ſeries of ſpines. 7. The yellow Murex, with the whole ſurface covered with ſhort ſpines. 8. The whitiſh Murex, with yellow, obtuſe, and low protuberances, with a purple mouth and the lip dentated, and the columella plicated. 9. The white, dentated-mouthed, echinated Murex, with black ſpines. 10. The Muſic-ſhell, with a wrinkled columella. 11. The pale Muſic-ſhell, with faint lines and ſpots. 12. The pale, brown, elegantly variegated, flamy Murex, with the columella wrinkled. 13. The variegated Murex, with the clavicle exerted, and ſurrounded with ſharp tubercles. 15. The white, ſtriated Murex, with the clavicle furniſhed with very long ſpines. 16. The yellow ribbed and furrowed Murex, covered on all parts with pointed tubercles. 17. The tuberculoſe, ſtriated, and umbilicated Murex, with a reddiſh clavicle. 18. The large, reddiſh, and yellow Murex, covered in all parts with long, hollow, and pointed tubercles.

2. Of thoſe which have ſmooth bodies, and the clavicles a little rough, and have a crooked roſtrum, there are, 1. The triangular Murex, or the helmet-ſhell of Rondeletius, with a dentated mouth, and the lip plicated. 2. The red, turban Murex, with the lips expanded both ways. 3. The narrower-mouthed, helmet Murex of Bonani. 4. The horn colour Murex, with the mouth ſcarce at all dentated. 5. The large, brown Murex, variegated with a tawny yellow. 6. The grey, ſtriated, helmet Murex. 7. The whitiſh, helmet Murex, variegated with yellow, undulated lines. 8. The elegant, agate-coloured, helmet Murex, variegated with regular, brown marks and ſpots. 9. The bluiſh, helmet Murex, with reddiſh, brown, flexuous ſtriæ. 10. The little, elegant, deeply-ſtriated, helmet Murex, with duſky lines.

3. Of thoſe which have remarkably digitated lips, and are called Spider-ſhells by writers, beſide the ſpecies deſcribed at large, there are, 1. The large Murex, with crooked fingers, called the male Spider-ſhell. 2. The large Murex, with more ſtraight and ſlender fingers, called the female Spider-ſhell. 3. The horned or many-fingered Spider-ſhell. 4. The ſhorter ſpider Murex, with ten fingers. 5. The oblong and wide-mouthed ſpider Murex, the heptadactylus or ſeven-fingered kind of Pliny. 6. The little, ſlender, five-fingered Spider-ſhell. 7. The larger, broad, four-fingered, ſpider Murex. 8. The ſpider Murex, with ſix hollowed fingers. 9. The ſpider Murex, with the aperture of the mouth ſurrounded with very numerous, minute inciſures. 10. The purple ſpider Murex, with ſtraight fingers. 11. The large ſpider Murex, with the fingers hooked in the manner of the beak of a bird of prey. 12. The ſpider Murex, with the lip folded ſo, as to form five appendages, and variegated with blue, white, and brown.

4. Of thoſe which have the lip alated and laciniated, there are, 1. The large, alated Murex, with a crooked roſtrum, and the lip red within, called the aſs's Ear-ſhell. 2. The triangular Murex, with deep furrows and tubercles on the ſurface, called the hog's Ear-ſhell. 3. The large Murex, with a red mouth, and with the columella black. 4. The Murex, with the mouth black on all parts, and ſtriated. 5. The brown and white-mouthed Murex. 6. The broad, deep, brown Murex, called the

the Turtle-ſhell. 7. The great, wide-lipped, ear Murex, of Rumphius. 8. The Murex, with a very wide, red, laciniated lip, and with an aculeated clavicle. 9. The Murex, with a narrower, deeply-jagged lip, and with an aculeated clavicle. 10. The variegated, verrucoſe Murex, with a laciniated and very thick lip. 11. The variegated, tuberculoſe Murex, with a thin and laciniated lip. 12. The yellow Murex, with a thin, laciniated lip, and a gibboſe clavicle. 13. The lead-coloured, bellied Murex, with the lip folded. 14. The ſmooth Murex, with a thick and folded lip, and with a dentated columella. 15. The yellow, tuberculoſe Murex, with a folded lip dentated on one ſide, and ſpotted on the other. 16. The yellow Murex, with an irregular ſpotted rib running tranſverſely from the upper edge of the lip to the oppoſite ſide of the ſhell. 17. The grey, coſtated Murex, with the lip extended on the ſide of the columella. 18. The white, coſtated, and contabulated Murex.

PURPURA.

THE Purpura is a ſimple ſhell, having no hinge, formed of one continuous piece, and covered from the top to the bottom with ſpines, with tubercles and umbo's; with the mouth ſmall, and approaching to a round figure, and with a ſhort clavicle; but uſually, with the other extremity, protended to a conſiderable length.

The Purpuræ have, in general, been confounded with the murices, but very improperly, as the genera are ſufficiently diſtinguiſhed, were it only by the ſhape of the mouth, and as the ſpecies under each are conſiderably numerous. The murices are, in general, ſhells of conſiderable beauty, but the Purpuræ are yet more ſingular and elegant.

Purpura flaveſcens roſtro longiſſimo, ſpinis longis arcuatis armato.
The yellow, long-beaked Purpura, with long and ſomewhat crooked ſpines.

The thorny, Woodcock-ſhell.

This is an extreamly elegant ſhell; it is about four inches in length, ſometimes more; it's body is ſhort, of a figure approaching to oval, and ventricoſe, and the clavicle is alſo ſhort, but diſtinct in it's volutions: the roſtrum or ſnout, protended from the extremity of the mouth, is of nearly twice the length of the reſt of the ſhell, and both this and the body are armed with four ſeries of very long ſpines, ſome of them more than an inch in length; theſe are diſpoſed in regular, longitudinal ſeries, and are ſlender, pointed at the ends, and the greater part of them ſomewhat crooked: the mouth is nearly round, but it's opening is continued in the form of a ſlit up the roſtrum of the ſhell: there are ſometimes regular ſeries of ſhort ſpines between thoſe of the longer; ſometimes there are only a few of them, and thoſe diſpoſed with leſs order: the natural colour of the ſhell is a tawny yellow, with an admixture of brown, but, with lying expoſed to the ſun and air upon the coaſt, it bleaches into a whitiſh hue: many of thoſe we receive are thus altered in colour, and moſt of them have the ſpines more or leſs injured.

It is a native of the American ſeas, and is not unfrequent in our cabinets.

Purpura flaveſcens variegata tuberculoſa roſtro longo.
The variegated, yellowiſh Purpura, with tubercles and a long beak.

The common Woodcock-ſhell.

This, when entire, is, in the whole, four or five inches long: the body of the ſhell is ſhort and inflated, and of a figure approaching to oval; the clavicle is thick and oblong, and the roſtrum or ſnout is ſlender, and equal to about once and a quarter the length of the whole ſhell beſide: the mouth is round, not very large, and is ſurrounded with a narrow lip of a reddiſh colour; the roſtrum or ſnout is continued from the extremity of this, and the opening runs all along it, in the form of a fiſſure: the whole external ſurface of the ſhell is covered with irregular, large, tubercles: it's ground colour is a duſky yellow, but it is variegated with brown and grey.

It is brought to us from many different places, but the moſt beautiful are from the Eaſt Indies.

Purpura roſtro brevi, ſpinis ſex ſerierum laciniatis.
The ſhort-beaked Purpura, with ſix ſeries of laciniated ſpines.

The Endive-ſhell.

This is a ſpecies extreamly different from the two former; it's length is about two inches, and it's diameter, including the ſpines, is an inch and a half: the body is of a figure approaching to oval; the clavicle is moderately long, and the roſtrum ſhort, or without that protended part, which gives ſo remarkable an appearance to the others: there are, on the ſurface of this ſhell, ſix longitudinal ſeries of ſpines or oblong protuberances, ſome of them more than a third of an inch in height, and all broad and jagged at the top: the body of the ſhell is white, and theſe are black, either all over, or at leaſt at the ends.

The ſhell is found in great abundance on the ſhores of the American iſlands; but it frequently is bleached to a white all over, before we receive it.

Purpura roſtro brevi, ſpinis expanſis tribus ſeriebus diſpoſitis.
The ſhort-beaked Purpura, with expanded ſpines ranged in three ſeries.

The Caltrop-ſhell.

This is three inches long, and, including the ſpines, is nearly as much in diameter: the body is large at the head, and gradually diminiſhes thence in diameter, ſo as to approach toward a conic figure: the clavicle is moderately long, and has about ſix volutions; the whole ſurface of the ſhell is deeply furrowed in a tranſverſe direction, and is ornamented with three ſeries or rows of ſpinoſe protuberances: theſe are from half an inch to a third of an inch in length, and are half as broad as they are long; they are longitudinally furrowed on their ſurface, and are broad at their extremities and hollow: the general colour of this ſhell is a dirty whitiſh.

We have it from the ſhores of the American iſlands, and from the Mediterranean.

Purpura roſtro ſublongo, ſpinis brevibus pungentibus armato.
The ſomewhat-long-beaked Purpura, with ſhort, pungent ſpines.

This is about an inch and a half in length, and an inch in diameter: the body is ventricoſe, and of a rounded figure; the clavicle is moderately long, and has about five volutions; and at the other extremity is placed the beak, which is ſlender, hollowed, and of about two thirds of the length of the body: the whole ſurface of the ſhell is armed with a number of ſhort and not very thick ſpines; they are of a conic figure, and are ſome of them hooked; they ſtand in eight or ten rows, and are continued to the roſtrum, and, though with leſs regularity in the diſpoſition, to the clavicle: the ſhell is of a whitiſh colour, and, when quite in perfection, the tips of the ſpines, and ſome of them entirely are black: this colour ſoon bleaches away, as the ſhell lies on the ſhores; and, conſequently, the moſt of what we have are altogether white.

Purpura roſtro ſublongo arcuato, ſpinis capillaceis.
The ſomewhat-long-beaked Purpura, with capillaceous ſpines.

The hairy Purpura.

This is about two inches in length, and an inch and a quarter in diameter in the largeſt part: the mouth is of a roundiſh figure, and ſmall; the clavicle is moderately long and thick, it has about four or five volutions: the roſtrum or beak at the oppoſite extremity of the ſhell is about equal to a third of the body of it in length, and is moderately thick, of a conic figure, obtuſe at the end, and ſomewhat crooked: the whole ſurface of the ſhell is covered with high-raiſed ribs; they ſtand in a longitudinal direction at ſmall diſtances, and there are furrows running round the ſhell,

which traſverſe them: on the ſurface of the body of the ſhell there ſtand almoſt innumerable ſpines; they are very ſmall, and reſemble ſegments of briſtles of ſome animal: the colour of the whole ſhell is a duſky, greyiſh, white, and the lining of the mouth is white.

The other ſpecies of the Purpura are, 1. The ſpinoſe Purpura, with a fleſh-coloured mouth, and three rows of fine ſpines. 2. The yellow Purpura, with three rows of large ſpines. 3. The whitiſh Purpura, with three ſeries of very broad and deeply jagged ſpines. 4. The furrowed Purpura, with yellow variegations, and with three ſeries of ſhort, broad, and ragged ſpines. 5. The large Purpura, with five rows of very broad ſpines laciniated and expanded at their extremities, like the feet of a frog. 6. The Purpura, with ſix ſeries of ſhort and ſomewhat obtuſe ſpines. 7. The Purpura, with ſix ſeries of foliaceous ſpines deeply laciniated, and with the edges of the ſegments curled. 8. The leſſer, prickly Purpura, with three rows of robuſt, but not very ſharp, ſpines. 9. The leſſer, rough Purpura, with five rows of low ſpines. 10. The Purpura, with a long clavicle and long ſnout, and with ſeveral ſeries of obtuſe tubercles. 11. The long-ſnouted, ſmooth Purpura, covered only with low, rounded prominences. 12. The little-ſpotted, tuberculoſe, moderately long-ſnouted Purpura. 13. The little, moderately long-ſnouted Purpura, with low tubercles. 14. The thick, coſtated Purpura, with yellow variegations, and a crooked beak. 15. The marbled, coſtated, and tuberculoſe Purpura, with very elegant amethyſtine lines on the body. 16. The elegantly variegated, coſtated, and marbled Purpura, with prickly protuberances. 17. The ſtraight-beaked, grey Purpura, with three ſeries of capillaceous ſpines. 18. The crooked-beaked Purpura, with ſetoſe fimbriæ. 19. The ſhort-beaked Purpura, with a depreſſed clavicle, and the body armed with ſharp ſpines. 20. The briſtly Purpura, called the ſea Porcupine by ſome writers. 21. The elegant purple and white Purpura, called by many the Porphyrites, or Porphyry-ſhell.

DOLIUM.

THE Dolium is a ſimple ſhell without any hinge, formed of one continuous piece, which makes a body of a figure approaching to round, diſtended, and, as it were, inflated: from the reſemblance of the body of this ſhell to a veſſel for the containing fluids, the genus has been named Dolium; others have called them Conchæ globoſæ; but this is leſs determinate, as they are many of them of an oblong, not a rounded, figure. The animal inhabiting this ſhell is a limax.

Some of theſe have the mouth dentated, others ſmooth; and in ſome the clavicle is moderately long, though in moſt it is depreſſed.

Dolium ſubovatum ſpiraliter coſtatum.
The ſubovate Dolium, with ſpiral ribs.

This is a very elegant ſhell: it is about two inches and a half long, and nearly as much in diameter in the largeſt part: the clavicle is oblong, and pointed at the extremity, and is in ſuch a manner continued from the body of the ſhell, that it is not eaſy to ſay where it begins; the other extremity of the ſhell is formed into a ſhort roſtrum, which turns a little up: the whole ſhell is tumid, and inflated, as it were, and largeſt near the head, and it's whole ſurface is covered with a number of elevated ribs, of the breadth of a ſtraw, ſeparated only by ſpaces of about the ſame diameter: the ribs are yellowiſh, and the ſpaces between them whiter, and both are ſpotted irregularly with a deeper yellow.

It is found on the ſhores of many parts of the Eaſt Indies, and has been ſometimes alſo brought from America.

Dolium ſubovatum læve, eleganter variegatum. The Partridge-ſhell.
The ſmooth, ſubovate Dolium, with elegant variegations.

This is about two inches and a half in length, and near two inches in diameter, and is a thin ſhell, ſeemingly inflated: the clavicle is moderately long, and has four volutions; theſe are thick, inflated, or rounded, and the loweſt of them is ſeparated from the body of the ſhell by a hollow line; the other extremity of the ſhell termi-

nates without a beak: the mouth is large and reddiſh within; the whole external ſurface of the ſhell is perfectly ſmooth, and is of a brown colour, variegated in an elegant manner, with a deeper brown and a grey, and in the whole has ſomething of the appearance of the plumage of the partridge.

It is brought to us from the Eaſt Indies, and ſometimes from the ſhores of the American iſlands.

Dolium ellipticum longitudinaliter coſtatum.
The elliptic, longitudinally coſtated Dolium.

The harp-ſhell.

This is one of the moſt beautiful ſhells of this genus: it is about two inches and a half long, and a little more than an inch and a half in diameter: the body is, however, all the way diſtended in ſuch a manner, as to give it the perfect figure of the others of this genus: the clavicle has five volutions; the loweſt of them, or that next the body of the ſhell, is large, the others very ſmall, and the top pointed; the whole ſurface of the body of the ſhell is ornamented with large and elevated ribs; they ſtand at ſuch diſtances, that the ſpaces between them are equal to twice or three times their own diameters: the colour of the ſhell is a deep brown, and it is variegated with a paler brown and with white, in a very beautiful manner.

We have it from both the Eaſt and Weſt Indies, but the moſt beautiful are from China.

Dolium ellipticum læve coronatum.
The ſmooth, coronated, elliptic Dolium.

The Ethiopian-crown.

This is about three inches in length, and two in diameter; it's figure is oblong, and approaches to an elliptic, but is ſomewhat ſmaller at each end than in the middle: the mouth is long and wide, the extremity of the ſhell a little ſplit by it: the clavicle is ſhort, and obtuſe at the extremity; it has about four volutions, and the lower one, as well as the upper edge of the body, are elegantly coronated, or deeply dentated, the denticles ariſing into regular, even, and conic points: the ſurface of the ſhell is tolerably ſmooth, but has the marks of many longitudinal lines on it; it's colour is a pale browniſh-yellow,

We have it from the coaſt of Africa, and from the Eaſt Indies.

Dolium ovatum læve, clavicula depreſſa, ore magno.
The great-mouthed, ſmooth, oval Dolium, with a depreſſed clavicle.

This is a ſhell conſiderably differing from any of the former; it is about an inch and a half long, and an inch in diameter at the larger end, whence it gradually grows ſmaller to the other, where it is ſtill very obtuſe, and ſomewhat ſplit by the extremity of the mouth: the mouth itſelf is of the whole length of the ſhell, and is extreamly wide and gaping; the lip is thin, and the columella has two or three foldings or indentings near it's lower extremity: the clavicle is depreſſed in ſuch a manner, that it is ſcarce viſible in moſt directions of the ſhell: the ſurface of the whole body is white, and is elegantly variegated with clouded ſpots of yellow.

We have it from the American ſhores.

Dolium ſubrotundum læve, ore latiſſimo.
The roundiſh, ſmooth Dolium, with an extreamly wide mouth.

The thin Gondola-ſhell.

This is alſo a very ſingular ſpecies; it is about an inch and a half in diameter, meaſured either way; it's figure approaches to round, but the two extremities of the mouth are extended beyond the line of the other parts of the ſhell, and ſpoil the figure, with an appearance of two ears. This is one of the moſt rounded of this whole genus, but in front it appears almoſt all mouth: it's colour is a pale dirty grey on the outſide, and a dead white within.

We have it on ſome of the ſhores of the Mediterranean.

Dolium

Dolium ſubovatum tuberculoſum.
The ſuboval, tuberculoſe Dolium.

The Mulberry-ſhell.

This is about an inch in length, and three quarters of an inch in diameter in the largeſt part, which is not at the end, but nearer the middle: the clavicle is moderately long, and has three or four volutions: the oppoſite extremity is a little ſplit by the mouth; the ſurface of the body is elegantly ornamented with oblong and moderately large tubercles, diſpoſed in ſeveral ſpiral ſeries; there are uſually ſix or ſeven ſeries of them; theſe are uſually black, which on the paler ground of the ſhell have a very beautiful effect.

It is brought to us from the coaſt of the Mediterranean.

Dolium bullatum roſtro brevi adunco.
The bullated Dolium, with a ſhort, crooked beak.

The Pearled-ſnail.

This is about two inches in length, and an inch and a half in diameter in the broadeſt part; the body of the ſhell is of a rounded figure: the clavicle is moderately long, and has about four volutions; the mouth is long, and is terminated, at the lower end of the ſhell, by a ſhort, thick, and ſomewhat crooked beak: the body of the ſhell is elegantly ornamented with a number of bullated protuberances, round, moderately large, and reſembling pearls; they are diſpoſed in regular ſeries in a ſpiral form, and there are uſually five of thoſe ſeries on the body of the ſhell, and one of a ſmaller, ſurrounding the loweſt volution of the clavicle: the mouth is large and dentated; the general colour of the ſhell is yellow, but the tubercles are ſomewhat paler than the reſt.

It is brought to us from the Eaſt and Weſt Indies, and is a very elegant ſhell.

The other ſpecies of the Dolium are, 1. The round, thin, umbilicated Dolium. 2. The white-furrowed Dolium, with yellow ſtreaks. 3. The yellow-furrowed Dolium, with ſpotted ſtreaks. 4. The white, thick, furrowed Dolium, with dentated lips. 5. The ſtriated and ſpotted Dolium, with a rugoſe columella. 6. The oblong, yellow Dolium, with a depreſſed clavicle. 7. The oblong, white Dolium, with a depreſſed clavicle. 8. The ſmooth, oblong, brown Dolium, with a depreſſed clavicle. 9. The oblong, variegated Dolium, with a depreſſed clavicle. 10. The variegated, contabulated Dolium, with a longer clavicle. 11. The oblong, coſtated, and umbonated, brown Dolium. 12. The elegant Dolium, with thirteen bright, red ribs. 13. The reddiſh, oblong Dolium, with fourteen narrow ribs. 14. The broad-ribbed, yellow and brown Dolium; the four laſt are called by our collectors Harp-ſhells. 15. The elegant, umbonated Dolium, called the Perſian-ſhell, or the Panama purpura. 16. The ſmooth Perſian-ſhell, with white lines. 17. The ſtriated Dolium, with brown and white ſpots. 18. The Dolium, with an oblong and ſomewhat crooked roſtrum, called the Fig-ſhell, with the depreſſed clavicle. 19. The roſtrated Dolium, with a beautiful amethyſtine tinge, called the Turnip-ſhell. 20. The long-beaked, ſtriated, yellow Dolium. 21. The thick, yellow Dolium, with lines and ſpots irregularly diſpoſed. 22. The white Dolium, with lines and ſpots of brown, more regularly diſtributed over it. 23. The grey, thick Dolium, called the Boat-ſhell and Sea-nut. 24. The oblong, greeniſh Dolium. 25. The oblong, reddiſh Dolium. 26. The thin, white, papyraceous Dolium. 27. The yellowiſh Dolium, with four brown faſciæ. 28. The capillaceouſly, ſtriated Dolium. 29. The white boat Dolium, umbilicated on each ſide. 30. The blue, faſciated, round Dolium, yellow within. 31. The greeniſh, or olive-coloured, round Dolium.

PORCELLANA.

THE Porcellana is a ſimple ſhell, without any hinge, formed of one piece, and of a gibboſe figure on the back: the mouth is long, narrow, and dentated on each ſide.

The animal inhabiting this ſhell is a lima.

Porcellana

Porcellana albida, utrinque roſtrata, intus flaveſcens.
The white Porcellana, yellow within, and beaked at each extremity.

This is of an oblong figure, and very gibboſe: it's length, including the two roſtra, is about three inches, and it's diameter, in the middle, is nearly two inches: it's colour is white on the outſide, without any variegation, and yellow within; the mouth is large, and is continued in the form of a roſtrum or ſnout at each end.

We have it from the African coaſt, and alſo from ſome parts of the Eaſt Indies.

Porcellana oblonga, utrinque roſtrata, oculata.
The oblong, oculated Porcellana, roſtrated at each extremity.

The Argus-ſhell.

This is an extreamly elegant ſhell; it is about three inches long, two inches in diameter, and ſomewhat leſs than that in height, being leſs gibboſe than moſt of the other kinds: the mouth is wide, and it's lips are continued at each extremity, beyond the verge of the ſhell, ſo as to form each way a kind of broad and ſhort beak: the ground colour of the ſhell is yellowiſh, but there are three brown faſciæ running over it of conſiderable breadth, but not very diſtinct or deep; and the whole ſurface is ornamented, as well on theſe faſciæ as elſewhere, with multitudes of round ſpots, compoſed of an out-line not filled up, and reſembling the eyes, which we ſee on ſome of our butterflies wings.

We have it from the coaſt of Africa and elſewhere; very fine ones have lately been brought from the Eaſt Indies.

Porcellana claviculata fuſca, albo variegata.
The claviculated Porcellana, with white variegations.

The Map-ſhell.

This is a very elegant ſpecies: it is about two inches and a half in length, and nearly as much in diameter, and it's back is very gibboſe: at the head there is a ſhort clavicle placed a little above the extremity of the mouth, and compoſed of about four imperfect volutions; the other end of the ſhell is obtuſe: the general colour is brown, but there are ſome elegant and irregularly undulated lines of white on it, which, with the other ſpots and clouded marks of the ſame colour, give the whole ſurface very much of the appearance of a map; the mouth is dentated or ſpinated, and about it the ſhell is paler than elſewhere, often whitiſh.

We have this from the Eaſt, and from the coaſt of Africa.

Porcellana ſubcærulea faſciata, roſtrata et claviculata.
The bluiſh, faſciated Porcellana, with a clavicle at one end, and a beak at the other.

This is about two inches in length, and nearly an inch and a half in diameter, and is very gibboſe and rounded on the back: at the head there ſtands a ſmall conic clavicle, formed of about four volutions; the two lower ones imperfect, and terminating in a ſharp point: at the other extremity there is a very ſhort but broad roſtrum: the general colour of the ſhell is bluiſh, but there are on it two, or ſometimes three, faſciæ, of a greyiſh brown.

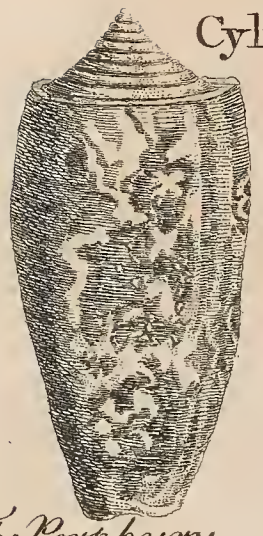
We have it from the ſhores of many of the American iſlands, and ſometimes from the coaſt of Africa.

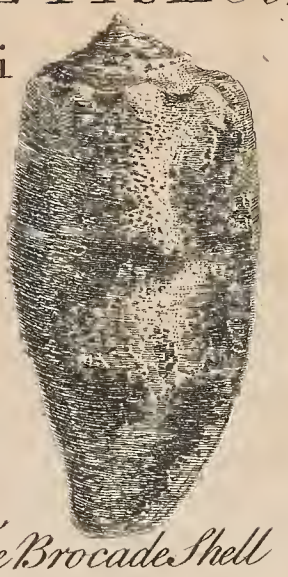
Porcellana ſubovata, utrinque longiſſime roſtrata.
The ſuboval Porcellana, with a long roſtrum at each extremity.

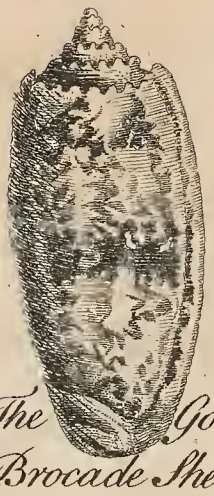
This is a ſmall ſpecies; it's body is of an oval, or nearly oval, figure, about three quarters of an inch in length, and half an inch in diameter, and conſiderably elevated or gibboſe on the back: at each extremity there is a roſtrum or beak of two thirds of the length of the body, and of the thickneſs of a large ſtraw; the colour of the whole

Cylindri


The Tulip Shell


The Porphyry Shell


The Brocade Shell


The Gold Brocade Shell


The Olive Shell


The Clouded Olive

Murices


The Spider Shell

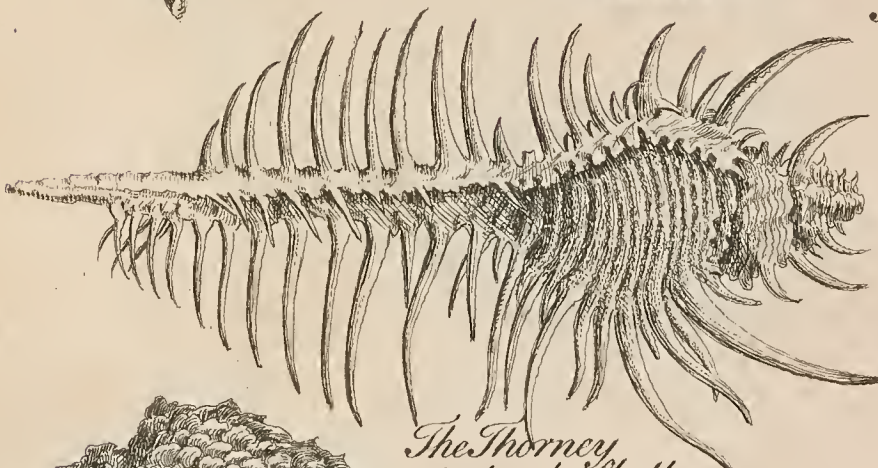

The Ribb'd Musick Shell


The Musick Shell


The Ribb'd Murex


The Pointed Murex

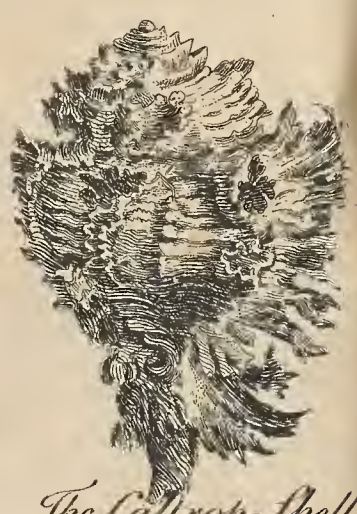

The Blue & White Murex


The Thorney Woodcock Shell


The Common Woodcock Shell

Purpuræ


The Endive Shell


The Caltrop Shell

Dolia

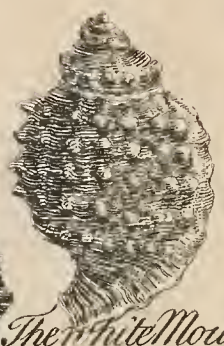

The Yellow & White Dolium


The Partridge Shell


The Harp Shell


The Persian Shell


The Mulberry Shell


The white Mouthed Yellow Dolium.

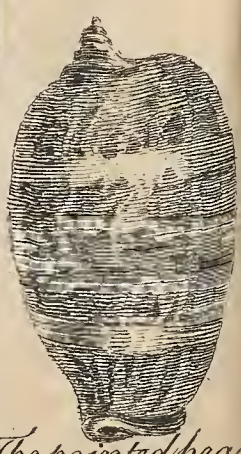

The high lipd Dolium

Porcellanæ


The Map Shell


The Argus Shell


The Yellow Zon'd Porcellane


The pointed head Porcellane.


The Boat Porcellane


The Black rib'd Porcellane


The Beetle Porcellane

B. Cole sculp.

whole ſhell is white, and it's ſurface is ſmooth, and naturally poliſhed, as is alſo that of moſt of the ſpecies of this genus.

We have this from the Eaſt Indies, and from the coaſt of Africa.

Porcellana utrinque roſtrata, alba, fuſco variegata.
The white Porcellana, variegated with brown, and roſtrated at each end.

This is a ſmall, but an extreamly elegant, ſpecies; it is barely three quarters of an inch in length, and about half an inch in diameter, and is roſtrated or beaked at each end, but in a very different manner; the roſtrum at the head of the ſhell is ſhort and broad, and ſeems no more than a continuation of the mouth, ſurrounded with a lip: that at the oppoſite extremity is longer, ſlender, and truncated; the body of the ſhell has a fine white for it's ground colour; and the variegations, which are of a bright brown, are diſpoſed in crooked and irregularly angulated lines, ſo that they have ſomething of the appearance of the marbled figures on coloured paper.

We have it from the ſhores of the American iſlands in conſiderable plenty.

Porcellana utrinque roſtrata bullata.
The bullated Porcellana, roſtrated at each end.

The Small-pox Porcelain.

This is alſo a ſmall ſpecies; it does not exceed three quarters of an inch in length, and it's diameter is about half an inch: the body of the ſhell is of an oval figure, and very gibboſe, or elevated on the back; it is roſtrated at each extremity: the beak at the head is the longeſt, and both are ſplit at the extremity: the whole ſurface of the ſhell is covered with elegant, round protuberances, of a fine white colour, imitating pearls.

We have it from the coaſt of Africa.

Porcellana griſea macula ſingulari magna fuſca.
The grey Porcellana, with a ſingle, large brown ſpot.

The beetle Porcelain.

This is about an inch in length, and two thirds of an inch in diameter: the back is gibboſe, and conſiderably elevated; the mouth is wide for that of one of this genus, and is continued in a roſtrated form at each extremity of the ſhell; at the head the roſtrum is oblong, but truncated; and at the other extremity it is is very ſhort, and turned up: the colour of the ſhell is white, but on the ſummit of the back there is a large, irregular ſpot of brown, in a rude manner, reſembling a beetle, or ſome other animal of that form.

We have it from the coaſt of Guinea.

The other ſpecies of the Porcellana may be arranged under four diviſions, as they are, 1. Conglobated and thick: 2. Pyriform, or oval and thin: 3. Oblong and thick; and, 4. Irregularly gibboſe.

1. Of thoſe which are conglobated and thick, there are, 1. The elegantly-lettered Porcellana. 2. The tyger-ſpotted Porcellana. 3. The ſnake Porcellana. 4. The ſmall, flatted Porcellana. 5. The ſmall, flatted, and, as it were, fimbriated Porcellana. 6. The elegantly punctated Porcellana. 7. The ſimple, greyiſh-white Porcellana. 8. The ſhort and roſtrated, elegant, Chineſe Porcellana. 9. The ſimply, violet-coloured Porcellana. 10. The reddiſh Porcellana. 11. The elegantly variegated Porcellana. 12. The guttated Porcellana. 13. The broad, depreſſed Porcellana, elegantly variegated, and called the Tortoiſe-ſhell Porcellana.

2. Of the pyriform and thinner Porcellanæ there are, 1. The wide-mouthed Porcellana, elegantly ſpotted with yellow. 2. The brown Porcellana, with two zones, and with a wide mouth. 3. The elegantly variegated brown, white, and yellow arcuated-mouthed Porcelain.

3. Of thoſe which are of an oblong form and thick, there are, 1. The ſhort and very gibboſe, ſmall, oculated Porcellana, or Argus-ſhell. 2. The irregularly oculated Porcellana, called the falſe Argus. 3. The greeniſh Porcellana, with numerous, pearly, round, and ſmall tubercles. 4. The brown Porcellana, variegated with four red zones. 5. The brown Porcellana, with four yellow zones. 6. The elegant Porcellana, with amethyſtine zones. 7. The green-ſpotted Porcellana. 8. The greyiſh-

brown, virgated Porcellana. 9. The blue, oblong Porcellana. 10. The blue, oblong, ſpotted Porcellana.

4. Of thoſe which have irregular gibboſities, there are, 1. The milk-white Porcellana, with a pale red lip, and red protuberances. 2. The white, gibboſe, ſmooth-mouthed Porcellana. 3. The yellow, gibboſe, ſmooth-mouthed Porcellana. 4. The dentated-mouthed Porcellana, with ſeven gibboſities on the ſurface, commonly known by the name of the Guinea-money. 5. The large, gibbated-backed Porcellana.

SHELL-FISH.

Claſs the Second.

BIVALVES.

Thoſe which have the external covering or ſhell compoſed of two parts, or valves.

OF theſe there are ſix genera: 1. The Oſtreæ or Oyſters. 2. The Chamæ. 3. The Mytuli or Muſcles. 4. The Cardiæ or Heart-ſhells, among which are the Cockles. 5. The Pectines or Eſcallops, uſually called Scollop-ſhells; and, 6. The Solenes or Razor-ſhells.

OSTREA.

THE Oſtrea is a ſhell compoſed of two valves: the lower one hollowed on the inſide, and gibboſe without; the upper one more flat: both compoſed of a multitude of laminæ or cruſts, and uſually ſcabrous, or rough, on the outer ſurface.

The ſhells of ſome of the Oſtreæ are ſmooth, thoſe of others furniſhed with tubercles, or with ſpines, or deeply furrowed and plicated: the figure of moſt is roundiſh, but in ſome it is quite irregular.

Oſtrea coſtata, foliata, roſea et alba.
The red and white, coſtated and foliated Oſtrea.

The foliated Oyſter.

This approaches to the ſhape of the common oyſter; it is about three inches in diameter, and the lower valve is deep, the upper one nearly flat: it is all the way, on both valves, furrowed deeply in a longitudinal direction, with rounded but irregular ridges between the furrows; theſe are numerous, but the greater part of them are naked; about every ſixth only is furniſhed with a ſeries of very elegant foliaceous prominences, which are flat, curled, and jagged at the edges; they are from half an inch to three quarters in height, and are on both valves, but moſt fair and entire on the upper: the ground colour of the ſhell is a roſe colour, with ſome admixture of purple, variegated with white; the prominences are principally white.

It is a native of the Eaſt Indies.

Oſtrea tenuis lævis ſubrotunda.
The thin, ſmooth, roundiſh Oſtrea.

The onion-peel Oyſter.

This is a ſpecies very ſingular in it's thinneſs and delicacy; it is from an inch to two in diameter, and is extreamly different, in the ſeveral ſpecimens, in the depth or gibboſity of the valves; ſometimes both are nearly flat, ſometimes one is much hollowed, and ſometimes both are ſo: the ſurface of both valves is ſmooth and gloſſy, and the colour whitiſh, with a tinge of red or green on the outſide, and a fine pearly white, with more or leſs of the ſame tinge within: it is frequently undulated in an irregular manner on the ſurface, and has a large roundiſh opening near the hinge.

It is a native of the Eaſt Indies, and of ſome parts of Europe.

Oſtrea

Oſtrea ſubovata tenuior ſinuata.
The thin, oval, ſinuated Oſtrea.

The Tree-oyſter.

This has been by many ſuppoſed to be the ſame with the common oyſter, only differing in it's manner of growing; but later obſervations have ſhewn, that in places where it has the ſame accidents attending it's formation, as the common oyſter, it ſtill preſerves it's diſtinct form: it is about two inches long, and an inch and a half in diameter at the larger end: the hinge is placed at the ſmaller extremity, which terminates obtuſely, and from thence it gradually becomes larger to the oppoſite end, where it is rounded and ſinuated at the edge: the whole ſurface of the ſhell is deeply furrowed in a longitudinal direction, and is ſomewhat rough, though not nearly ſo much ſo as that of the common oyſter: the colour is brown, with a faint admixture of reddiſh on the outſide, and a pearly white within. When this ſpecies is produced in the neighbourhood of robuſt ſea-plants, or other ſmall and rounded bodies under water, it adheres to them, and there will grow, from the ſeveral parts of the ſhell where it touches them, a kind of clavicles or claſpers, which ſeize upon, or meet round the thing, holding the ſhell faſt to it.

It is very frequent in the Weſt Indies, where it abounds on their mangrove-trees covered by the tides, and has thence obtained the ſtrange name of the Tree-oyſter. To this has been owing the report of oyſters growing on trees in that part of the world.

Oſtrea anguſtior capite tranſverſo.
The narrow Oyſter, with a tranſverſe head.

The Hammer-oyſter.

This is by far the moſt ſingular of all the Oyſter-kind, and is indeed one of the moſt extraordinary ſhells in the world: it's ſhape is that of a hammer, or rather a pickax, with a very ſhort handle, and a long head: the body of the ſhell, which ſtands in the place of the handle of the inſtrument from which it is named, is about four inches long, and three quarters of an inch in diameter: what is called the head, and anſwers to the head of the pickax, is five or ſix inches long, and, except where it joins to the body, is ſcarce any where more than half an inch in diameter; it ſtands tranſverſely or croſſwiſe to the body, and is irregularly formed, uneven at the edges, and terminates in a narrow but obtuſe point at each end: the hinge is at the lower end of the body; the valves open all the way from each end to this part, and, though of this ſtrange figure, they ſhut in a remarkably cloſe and elegant manner: the edges of the body and head have often great irregularities and protuberances on their ſurface, and at their edges; and are deeply furrowed and plated all over, the lines running in different and very irregular directions: the colour is a deep brown, with a tinge of a violet purple on the outſide, and a pearly white, with ſome faint tinge of purpliſh within.

It is a native of the Eaſt Indies, and is a very rare ſhell; when entire, which it very rarely is, it ſells at a great price: ſix guineas were, laſt winter, given at an auction for an imperfect one.

Oſtrea horrida ſpinis erectis et aduncis.
The Oſtrea, with numerous, erect, and crooked ſpines.

The great, prickly Oyſter.

This is a large and very elegant ſpecies: it is of a figure approaching to oval, four inches long, and at the larger extremity near three in diameter; at the ſmaller, where the hinge is, it is about an inch and a half: both ſhells are gibboſe and hollowed, but the under one moſt ſo: the whole ſurface of each is furrowed longitudinally, but ſomewhat irregularly, and is covered with a vaſt number of ſpines; they are robuſt, ſharp-pointed, and of various lengths, from half an inch to a tenth of an inch; they ſtand cloſe and crowding upon one another, and ſome of them are ſtraight, others crooked: the colour of the outſide of the ſhell is a dirty red, on the inſide it is white and pearly.

It is a native of the coaſts of Africa, and we have it alſo in ſome other places.

Oſtrea conica ſpinis ad oram undulatis.
The conic Oſtrea, with undulated ſpines at the rim.

This is about two inches in length, and an inch and a quarter in breadth at the larger extremity, from whence it gradually becomes ſmaller to the other, at which the hinge is placed: the body of the ſhell is rough and undulated, and has a few ſhort ſpines toward the edges, but rarely any about the middle; toward the rim, at the larger extremity, there ſtand three or four rows of long, robuſt, and ſharp-pointed ſpines; they are not ſtraight but undulated, or bent backwards and forwards, and make a kind of thick fringe, thoſe of the upper and lower valve meeting, and hiding the joining of the two parts of the ſhell: the body of the ſhell is of a dirty white, but the ſpines are of an elegant purpliſh-red, and make a very beautiful appearance.

It is frequent on the ſhores of South America.

Oſtrea foliata imbricata albeſcens.
The whitiſh, foliated, and imbricated Oſtrea.

This is one of the moſt extraordinary ſhells of this genus; it's figure is oval; it's length about three inches and a half; it's hinge is at the ſmalleſt end, and it's diameter at the other is two inches and a half: it is deeply ſinuated at the edge, and the ſurface is all over covered with tranſverſe, foliated protuberances, of an undulated form: they are flat, uneven, and notched at the edges, and there are uſually ſix or ſeven ſeries of them placed at tolerably equal diſtances one over another: the general colour of the ſhell is white, but there are variegations of a bright roſe colour on it.

It is a native both of the Eaſt and Weſt Indies, but is not frequent in the latter place.

Oſtrea hians globoſa echinata.
The echinated, globoſe, gaping Oſtrea. **The Hedgehog-oyſter.**

This is a very ſingular and pretty ſpecies; it is about an inch in diameter, as much in length, and nearly as much in depth: the ſhells are both gibboſe, or nearly hemiſpherical, and are ſo ſhaped, the upper one being ſmaller than the under, that they never can cloſe or ſhut, but always leave a conſiderable opening: the whole ſhell is furrowed longitudinally, and is very thick-ſet with ſhort, crooked ſpines, the points of them all turning toward the hinge: the colour is a tolerably clean white, without any variegation.

It is frequent in the Eaſt Indies, but rarely comes over perfect.

Oſtrea dentata craſſa.
The thick, dentated Oſtrea. **The Cocks-comb Oyſter.**

This is a thick and coarſe ſpecies, but it has it's ſingularity, that may very well ſtand in the place of beauty: it's diameter in breadth is about four inches; it's depth, from the hinge to the verge of the mouth, hardly three; it is elevated into three, four, or more very prominent and ſharp ridges on the ſurface, with very deep, angular furrows between them; theſe ridges are extended alſo at the verge, beyond the reſt of the ſhell, and form a deeply dentated edge: the colour on the outſide is a deep brown, with a tinge of violet; within it is of a pearly white: the ſurface is ſomewhat rough, with tranſverſe furrows; and the opening of the ſhell, though ſo deeply ſinuated, is formed ſo nicely, that it cloſes with great exactneſs.

It is a native of ſome of the coaſts of the Mediterranean: we have both this and the hammer-oyſter foſſile in the ſand-pits on Blackheath; and both, among many other ſhells, in the ſtone of which St Paul's Church is built.

The other ſpecies of Oyſters are to be arranged under two or three diviſions, and will then be eaſily underſtood by their ſpecific names, without farther deſcriptions.

1. Of the more flat and ſmooth kind, there are, 1. The common Oſtrea. 2. The little, greeniſh, oriental Oſtrea. 3. The great, broad Oſtrea, which produces the genuine pearl, and is thence called the Concha Margaritifera, and Pearl-ſhell. 4. The great,

great, oblong, and very flat Pearl-ſhell 5. The ſmall, round, variouſly coloured, ſmooth Oſtrea, with an opening near the top; this is very uncertain in it's colour, varying into red, yellow, brown, and green, and has been deſcribed under theſe by ſome, as ſo many different ſpecies. 6. The ſmall, oval, variegated Oſtrea. 7. The large, thin, and ſmooth Oſtrea, with an undulated ſurface, called the Saddle-oyſter. 8. The thin, elegantly ſpotted Oſtrea. 9. The elegant, red, ſtriated, and lineated Japoneſe Oſtrea. 10. The caudated, oval-bodied Oſtrea, called the Swallow-ſhell.

2. Of thoſe which have the ſurface contabulated or plicated, but have no ſpines, there are, 1. The large, oval, ſinuated, and plicated Oſtrea. 2. The thin, round, deeply plicated Oſtrea. 3. The irregularly tortuous Oſtrea, called the Leg-oyſter. 4. The large, thick, tabulated Oſtrea, with an elegantly ſinuated edge.

3. Of thoſe which are of a more globoſe figure, or have both ſhells gibboſe and armed with ſpines, there are, 1. The large, very gibboſe Oſtrea, with rounded and not very numerous ſpines. 2. The gibboſe and rounded Oſtrea, with numerous flatted ſpines. 3. The leſs gibboſe, flame-coloured Oſtrea, with ſharp ſpines. 4. The reddiſh, gibboſe Oſtrea, with numerous ſhort white ſpines. 5. The deeply furrowed, purpliſh-red Oſtrea, with numerous whitiſh, flat ſpines. 6. The gibboſe, rounded Oſtrea, with red and livid ſpines. 7. The great, plicated Oſtrea, with a few flat ſpines. 8. The elegantly ſtriated Oſtrea, with a few ſpines.

4. Of thoſe which are gibboſe and foliated, or have flat and jagged eminences in the place of ſpines, there are, 1. The white, rounded, ſcaly Oſtrea, with ſmall but elegantly ſinuated foliations. 2. The ſmaller gibboſe Oſtrea, with foliations forming tubules at the ends. 3. The yellow, gibboſe, and elegantly foliated Oſtrea. 4. The leſs, gibboſe, white and purple foliated Oſtrea. 5. The little, globoſe Oſtrea, with very long foliations.

5. Of thoſe which are of an oblong figure, and have either ſpines or obtuſe protuberances, there are, 1. The narrow, ſinuated Oſtrea, with ſhort and few ſpines. 2. The narrow, ſinuated Oſtrea, with numerous, obtuſe tubercles. 3. The elegant Oſtrea, with white foliations, edged with delicate purple ſpines. 4. The variegated, red and white Oſtrea, with large ſpines. 5. The conic, deeply furrowed, ſpinoſe Oſtrea.

CHAMA.

THE Chama is a ſhell formed of two valves, which are both convex, or gibboſe, and equal, and which, when ſhut, leave always an opening in one part.

Some of the Chamæ are perfectly ſmooth, ſome are ſtriated, and ſome rugoſe, and even ſpinoſe; ſome of them are oblong, others roundiſh; ſome equilateral, and others inequilateral: the ſeveral ſpecies have very conſiderable differences in ſhape, but the generical characters are obvious and immutable.

Chama depreſſa lævis, fuſca, lineis irregularibus nigris.
The ſmooth, depreſſed Chama, variegated with irregular black lines.

The Arabian Shell.

This is a large ſpecies; it is three inches in diameter from one extremity to the other, and two and a half from the hinge to the oppoſite verge: the head, where the hinge is placed, is not in the center of the top, but near one ſide: the whole ſurface of the ſhell is perfectly ſmooth and even, and has a fine natural poliſh: it's ground colour is a pale brown, and it is variegated with lines and ſtreaks of black; they are narrow, angulated, and diſpoſed acroſs one another in a beautiful, irregular manner: their accidental meetings ſometimes form reſemblances of the Arabic or Arabian characters, and thence the ſhell has obtained the name of the Arabic or Arabian Chama.

It is frequent on the coaſts of many parts of Europe.

Chama gibboſa, ſtriis tranſverſis numeroſiſſimis exarata.
The gibboſe Chama, with very numerous, tranſverſe ſtriæ.

This is about two inches and a half in diameter, either way, and the ſhells are both ſo much elevated, that it's thickneſs is not leſs than an inch: it is of a beautiful yel-

low colour without any variegation, and the whole ſurface is deeply furrowed: the furrows run tranſverſely in a ſemicircular direction, and there are ſmall and ſharp ridges between them.

It is frequent on the coaſts of the American iſlands, and is found alſo in ſome parts of Europe.

Chama reticulata ovata rotunda.
The roundiſh, oval Chama, with a reticulated ſurface.

This is two inches and a half in length from the hinge to the oppoſite edge, and two and a quarter in diameter in the broadeſt part, which is near the edge: the whole ſurface is covered with ſomewhat deep, longitudinal furrows, with rounded ridges ſtanding very cloſe between them; and there are alſo a number of tranſverſe lines, though much fainter than the others, running in a circular direction, and forming, with the others, a kind of net-work: the whole ſhell is of a duſky whitiſh colour.

We have it on ſome of our own ſhores, and thoſe of the Mediterranean abound with it.

Chama truncata margine ſpinoſo.
The truncated Chama, with a ſpinoſe edge.

The Venus Shell, or Concha Veneris.

This is a ſhell of a very ſingular figure; it is about an inch and a half in length, and as much in diameter toward the larger end: the valves are both convex, and are deeply ſtriated in a longitudinal direction: the hinge is placed at the extremity, where the ſhell is rounded and prominent, and the end that ſhould have gone the other way ſeems truncated or cut off: the opening is covered with a very elegant lip, propagated from each ſide; theſe are wrinkled, and of a beautiful reddiſh colour, with ſome white among it; they do not unite perfectly in the middle, but leave an oblong aperture, and there ſtand at the farther edge of each, or round about the truncated end of the ſhell, a ſeries of long, ſlender, and beautiful ſpines.

It is found on the ſhores of the American iſlands, and, when perfect, is valued at a high rate by our collectors, but the ſpines are uſually broken in the carriage.

Chama truncata profunde ſtriata margine ſerrato.
The truncated, deeply ſtriated Chama, with a ſerrated edge.

This is about an inch in length, and as much in diameter; the head is rounded and ſmall, and one extremity is rounded, the other truncated, as in the former ſpecies: the whole ſurface of the ſhell is furrowed with deep lines, with a few broad ridges between them; the truncated end is cloſed by two whitiſh, wrinkled lips, leaving only a ſmall, oblong aperture between them, and the edge is ſurrounded by a dentated or ſerrated margin, not by a ſeries of looſe ſpines, as in the former: the ground colour of the ſhell is a dead white, but it is elegantly variegated with a gloſſy brown.

We have it both from the Eaſt Indies, and the American iſlands.

Chama truncata margine lævi.
The truncated Chama, with a ſmooth edge.

This is an elegant ſhell; it is about an inch and a half long, and as much in diameter: the head, where the hinge is placed, is ſmall and obtuſe; the whole ſurface of the ſhell is ſmooth, and has an elegant, natural poliſh; it's colour is white; the truncated end is large, and the lips leave but a ſmall aperture between them; they are very much wrinkled, and are of a browniſh colour, with a ſtrong tinge of violet.

It is a native of the Eaſt Indies; we have not yet received it from any other part of the world.

Chama truncata obſcure faſciata.
The obſcurely faſciated, truncated Chama.

This was one of the firſt known ſpecies of the truncated Chamæ, and obtained very early, in theſe ſtudies, the name of Concha Veneris: it is now diſtinguiſhed by the name of the oriental Concha Veneris; but, in contradiction to the generality of oriental ſpecies, it is vaſtly inferior in beauty to the occidental Concha Veneris, or the ſpinoſe-lipped kind deſcribed before: it is two inches and a half in length, and as much in diameter; the head, where the hinge is placed, is ſmall and rounded, and the truncated part is furniſhed with two lips, which are ſo large, as to meet near the top, leaving only a ſmall opening juſt under the hinge, but they gape again lower down: the whole ſurface of the ſhell is furniſhed with obſcure faſciæ, eight or ten in number, and the lips are ſmooth at the edge, or have no ſpines, nor ſo much as a dentated margin.

It is frequent on the ſhores of the Eaſt Indies, but it is not greatly valued by our collectors.

Chama truncata lævis variegata.
The ſmooth, variegated, truncated Chama.

This is a large and very beautiful ſpecies; it is two inches and a half in diameter, and more than two inches from the hinge to the oppoſite edge; both the valves are gibboſe in a conſiderable degree, and the truncated end is furniſhed with a pair of lips, which leave only a ſmall, round aperture under the hinge: the ſurface of the whole ſhell is perfectly ſmooth, and has an excellent natural poliſh: it's ground colour is a ſnowy white, and it is variegated with very elegant ſtreaks and blotches of a violet purple.

It is frequent in the American ſeas.

Chama ſuborbiculata variegata lævis.
The ſmooth, variegated, roundiſh Chama.

This is near two inches in diameter, and is not of the truncated kind; the head is large, obtuſe, and rounded, and both ſhells are convex; they ſhut tolerably cloſe, all the way round, except that they leave a ſmall roundiſh aperture near the head on one ſide: the colour of the ſhell is yellow, and it is elegantly variegated with red ſpots; there is not the leaſt ridge or furrow on any part of it's ſurface, and it has a fine natural poliſh.

It is brought to us principally from the Eaſt Indies, though we have it in ſome parts of Europe.

Chama rugoſa ſubrotunda capite oblongo.
The roundiſh, rugoſe Chama, with an oblong head.

This is an inch and a half in length, and about an inch and a quarter in diameter; it's colour is a ſimple browniſh-yellow, without any variegations: the valves are both conſiderably gibboſe, and have a number of deep, tranſverſe furrows, with ſome roughneſſes and obtuſe protuberances on the ridges between them: the head is elevated and elongated, and terminates in an obtuſe point; this has as little beauty as any of the Chamæ.

It is a native of our own ſeas, and is alſo ſometimes brought from America.

Chama ſuborbiculata profunde ſtriata.
The deeply ſtriated, ſuborbiculate Chama.

This is a ſmall ſpecies; it meaſures about three quarters of an inch in diameter, and ſomewhat leſs than that from the hinge to the oppoſite verge: the colour is a tolerably pure white, and it is variegated with elegant, blood-red ſpots: the whole ſurface is ornamented with a kind of longitudinal ribs, running between deep and broad furrows; there are alſo ſome tranſverſe lines, but they are much fainter.

It

It is a native of the Mediterranean, and has been found alſo in great perfection on the Iriſh ſhores.

Chama labiata ſubſphærica ſtriata.
The roundiſh, ſtriated, labiated Chama.

This is one of the moſt ſingular of the Chamæ: it has, in general, the ſtructure of the truncated ones, but the truncated part is not flat or ſtraight as in them, but ſwells into a roundneſs, and the oppoſite part of the ſhell is ſhorter than in any of the others; by this means it departs greatly from their figure, and approaches toward roundneſs: the valves are very gibboſe alſo, and the ſhell is almoſt as deep as it is long or broad; it is all over of a duſky white; the whole ſurface, except the lips, is ſtriated tranſverſely; the lines are ſmall, cloſe, and elegant; the lips are almoſt ſmooth; what inequalities they have are owing to ſome oblong wrinkles, but theſe are faint, and are often quite wanting.

It is found on the ſhores of ſome of the American iſlands, but it is very rare in our collections.

The other ſpecies of the Chama are, 1. Of the oblong and tranſverſely ſtriated kind; 1. The elegant, very lightly ſtriated, brown and black Chama. 2. The elegant, flat, purple and white Chama. 3. The elegant, brown and white, flat Chama. 4. The pale brown Chama, with narrow, black ſtreaks. 5. The deeply furrowed Chama.

2. Of thoſe which are oblong, and are longitudinally ſtriated or coſtated, there are, 1. The grey, lightly ſtriated Chama. 2. The elegant amethyſtine Chama. 3. The lightly ſtriated, yellow Chama. 4. The almoſt ſmooth, red Chama. 5. The beautifully variegated, finely ſtriated Chama.

3. Of thoſe which are of a figure approaching to round, and are equilateral, there are, 1. The lightly ſtriated, ſpherical, whitiſh Chama. 2. The reticulated Chama, or baſket-ſhell. 3. The reticulated and granulated Chama. 4. The common, tranſverſely ridged, deep Chama. 5. The rugoſe or deeply furrowed, brown Chama. 6. The ſmooth Chama, with irregularly angulated lines of black. 7. The elegantly punctated Chama. 8. The clouded brown and white Chama. 9. The red and white, faſciated Chama. 10. The thin, plain, yellow Chama. 11. The elegantly faſciated, violet Chama. 12. The white, thick, plicated Chama. 13. The ſnow-white, rounded Chama, called Chamapalodes by authors. 14. The ſmooth, ſomewhat flatted Chama, called by Bellonius the Chama Pelorides. 15. The blackiſh, depreſſed Chama, called the Chama Glycymeris of Ælian. 16. The very deeply furrowed, rounded Chama, called the Chama Trachea. 17. The oblong, ſmooth, brown and white Chama, called by ſome the Chama Pepeiata. 18. The ſmooth, variegated Chama, called the Chamelaia. 19. The rough Chama, called the Tyger's-tongue Chama. 20. The fine, thin, white, reticulated Chama.

4. Of thoſe which are truncated and inequilateral, beſide the ſpecies deſcribed above, there are, 1. The elegant violet-coloured Chama, with an oval aperture. 2. The grey-lipped, ſmooth Chama. 3. The brown-lipped, ſmooth Chama. 4. The truncated Chama, with ſmooth lips, and longitudinal ſtriæ on the body. 5. The ſmooth-lipped, truncated Chama, with tranſverſe ridges. 6. The large, ſmooth, truncated Chama, of an elegant purple within. 7. The large, grey, truncated Chama, with a mixture of purple and white within. 8. The ſmall, grey Chama, with the inſide of a pearly white. 9. The variouſly, ſtriated, truncated Chama.

MYTULUS.

THE Mytulus is a ſhell compoſed of two valves, of an oblong figure, and ſhutting cloſe all the way: the valves are both convex, and of a ſimilar ſhape. The animal inhabiting it is a Tethys.

Of the Mytuli ſome are of a conic figure, others oblong, and equal at both extremities; ſome are ſmooth on the ſurface, ſome rough; and ſome are much deeper than others.

Mytulus

Mytulus major utrinque angulatus.
The large, angulated Mytulus.

The Carolina Muſcle.

This is four or five inches in length, an inch and a half in diameter, and nearly as much in thickneſs; the head or place of the hinge is ſituated very near one of the extremities of the ſhell; this end is the more obtuſe, the oppoſite one is more pointed; the two valves are exactly of the ſame ſhape, and they ſhut every-where regularly cloſe; they are deep, and have their middle elevated into an irregular, angular gibboſity: the colour of the outſide is yellow, with a faint tinge of purple in ſome places: within it is of a pearly hue, with much of the purple or violet toward the edges.

It is brought from South America; ſome very fine ones brought from Carolina have given it the general name of the Carolina Muſcle: we have it foſſile in England.

Mytulus depreſſior tegmine coriaceo.
The depreſſed Mytulus, with a coriaceous covering.

The coated Muſcle.

This is one of thoſe ſpecies which have been called Cunei and Tellinæ by authors, fond of diſtinctions where there were very little differences: it is two inches in length, the tranſverſe way, and not an inch from the hinge or head to the oppoſite verge; the hinge is ſituated much nearer to one end than to the other, and the ſhell is elevated into a rounded protuberance in that part; the ſurface is rough, and of a duſky brown; it is covered with a thick, coriaceous coat, furniſhed with a multitude of ſhort hairs.

It is frequent in the Mediterranean.

Mytulus lævis variegatus gibboſior.
The ſmooth, variegated, gibboſe Mytulus.

This alſo is one of the cunei of authors; it is two inches from end to end, and near an inch and a half from the hinge to the oppoſite verge of the ſhell; it's thickneſs is, at leaſt, three quarters of an inch, both the valves being very convex: the hinge is placed near one end, which is large and rounded; the other is flatter, and terminates in a kind of edge: the ground colour of the ſhell is whitiſh, but it is elegantly variegated with yellow and brown.

It is a native of the American Seas; we have it very frequently foſſile in England.

Mytulus anguſtior faſciatus et variegatus.
The narrow, faſciated, and variegated Mytulus.

This is a very elegant and very ſingular ſhell; it is three inches long, and about one inch in diameter: the valves are both conſiderably convex, and conſequently the ſhell is as thick as broad. It's largeſt part is near the middle, a little toward the lower end; from thence it gradually becomes ſmaller to each end, at the head or upper extremity, at which the hinge is placed; it is terminated by a ſmall, obtuſe button; at the oppoſite extremity it is more obtuſe: the whole lower part is marked with tranſverſe lines or faſciæ, ſomewhat broad, and ſunk lower than the reſt of the ſhell; from the middle to the top the ſurface is more ſmooth: the ground colour is a yellowiſh-red, and there are a number of beautiful variegations of a deep purple, on ſeveral parts of it, but moſtly near the ſides.

It is a native of the South Seas, and is very rare in our collections; the French cabinets have ſome fine ones: the colours are faint on moſt of theſe, but that is owing to their having been long waſhed on the ſhores, before taken up; they are naturally very bright.

Mytulus ovato-oblongus variegatus lævis.
The ſmooth, ovato-oblong, variegated Mytulus.

The purple, Magellanic Muſcle.

This is four inches long, and toward the extremity is two and a half in diameter; from this part it gradually grows ſmaller to the head where the hinge is ſituated, which

is narrow and ſomewhat pointed: both the valves are gibboſe, and the ſhell conſiderably deep: the ground is a deep and fine violet purple; the variegations are brown and whitiſh, or grey.

It is found on the coaſts of the ſouthern parts of America; it is met with in ſome of our collections, but is not common.

Mytulus ovato-conicus, maximus, rugoſus, et ſtriatus.
The ovato-conic, great, ſtriated, and rugoſe Mytulus.

The Pinna Marina.

This is one of the largeſt of the bivalve ſhells; it is frequently two feet long, and near one foot in breadth: the valves are neither of them very deep, ſo that the cavity of the ſhell is ſhallow, in proportion to it's great extent; it is ſmall and narrow at the head; from thence it deſcends growing gradually larger for two thirds of it's length, and forms ſo far a part of a cone: but from thence to the extremity, though it continues ſtill growing larger, it aſſumes a rounded figure, and at that end forms the larger extremity of an oval: the colour of the outſide is an olive brown; within it is partly of a pearly hue, partly reddiſh: the external ſurface is rough and elevated in many places into a kind of ſquammæ, and is furrowed longitudinally from near the top to the bottom.

It is a native of the Eaſt Indies, and of ſome other parts of the world.

Mytulus conicus ſquammoſus et echinatus.
The conic, ſquammoſe, and echinated Mytulus.

The prickly Pinna.

This is ſix or ſeven inches in length, and three in diameter at the baſe, from whence it gradually becomes ſmaller to the oppoſite extremity; it does not ſwell into a roundneſs, as the former ſpecies toward the baſe, but the extremity is, however, a little bellied out, not plainly truncated: the colour of the ſhell is a pale olive on the outſide, and a fine pearly white within; the external ſurface is deeply furrowed in a longitudinal direction; the furrows run at ſome diſtances, and the elevated parts between them are conſequently broad: they have a kind of ſquammæ or ſcales riſing on them, which terminate, many of them, in prickly points.

It is a native of South America; we have it alſo ſometimes from the Aſiatic and African ſhores.

The other ſpecies of the Mytulus are numerous, and are called by authors by three names: the Pinnæ Marinæ, Muſculi, and Tellinæ.

1. Of thoſe called Pinnæ Marinæ, that is, ſuch as are flat, oblong, and terminated at one extremity by a point, there are, 1. The large, blackiſh-brown, Magellanic Pinna. 2. The leſſer, very deeply ſtriated Pinna. 3. The ſtriated and elegantly variegated Pinna. 4. The large, ſmooth, olive-coloured Pinna. 5. The narrow, paler brown Pinna. 6. The narrow and ſomewhat deeper Pinna. 7. The elegant blue Pinna, ſtriated deeply in the lower parts; this is a very ſcarce ſhell. 8. The ſmall, roſe-coloured, variegated Pinna. 9. The grey, deeply ſtriated Pinna. 10. The large, pale brown, lightly ſtriated Pinna, of Newfoundland. 11. The ſmaller and ſmoother Pinna, of the Canada lakes. 12. The reddiſh-grey, large, rough Pinna. 13. The duſky, red, aculeated, and deeply furrowed Pinna. 14. The leſſer, deep brown Pinna, called Pinna Tridacna by Rondelet. 15. The rounder-ended Pinna, called the Duck-billed Pinna. 16. The very long, narrow, truncated, and elegantly ribbed Pinna.

2. Of thoſe which have the valves deeper, or more gibboſe and equilateral, and are called Muſculi and Muſcles, there are, 1. The greyiſh-white, very thin-ſhelled Muſcle. 2. The bright, ſilvery-white Muſcle. 3. The oblong Muſcle, which buries itſelf in ſtones, and is called Pholas. 4. The ſhorter and more elate, black, ſaxatile Muſcle or Pholas. 5. The brown Muſcle, which never cloſes it's ſhell, but has a large fleſhy body, and a trunk. 6. The leſſer, open Muſcle, with a deep brown, obtuſe ſhell. 7. The duſky-brown, obtuſe-ended, American Muſcle. 8. The ſmall and elegantly variegated Muſcle. 9. The deep red Muſcle.

3. Of thoſe which have equal extremities, and are of an oblong figure and plane, and are called by many writers on theſe ſubjects Tellinæ, there are, 1. The ſmooth, large, violet-coloured Tellina. 2. The ſmaller, purple and white, elegantly variegated

Ostreæ



The Coxcomb or Hogs Ear Oister



The Tree Oister



The great prickly Oister



The Hedgehog Oister



The Hammer Oister



The Conic Prickly Oister

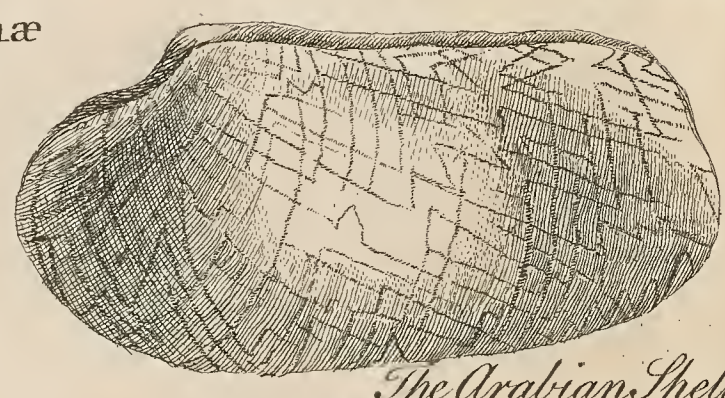
Chamæ



The Concha Veneris



The Smooth Edg'd Truncated Chama



The Arabian Shell



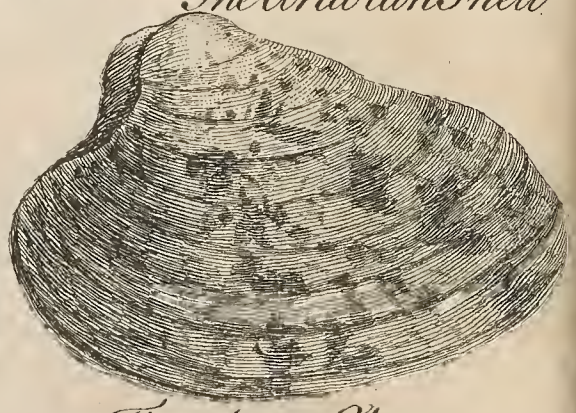
The Violet & White Chama



The Old Woman Shell, or wrinkled Chama



The Zizzag Chama

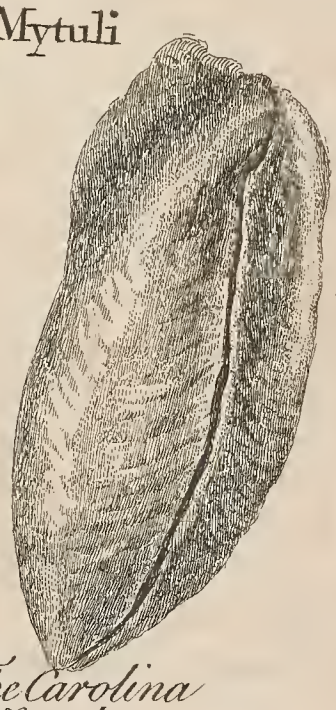


The Agate Chama

Mytuli



The Magellanick Muscle



The Carolina Muscle



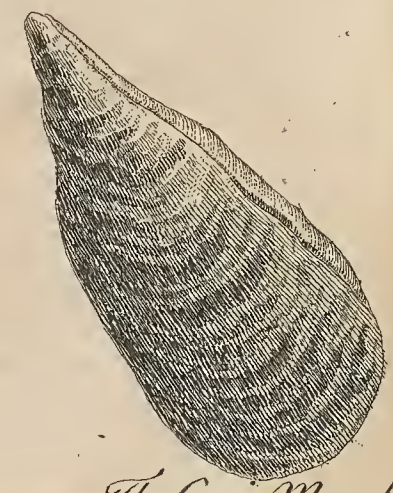
The Purple Magellanick Muscle



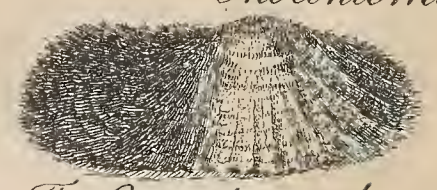
The Agate Muscle



The Pinna Marina



The Conic Muscle



The Coated Muscle

B. Cole sculp.

gated Tellina. 3. The ſmooth, flat Tellina, with elegant white faſciæ. 4. The ſimple coloured, deep brown, hairy Tellina. 5. The ſhorter, coriaceous Tellina, of the New England lakes. 6. The broader and flatter Tellina, of the Azores iſlands. 7. The narrow, oblong, coriaceous Tellina, from the banks of Newfoundland. 8. The deep brown, round-ended, coriaceous Tellina. 9. The pointed-ended, coriaceous Tellina: all theſe coriaceous kinds, when cleaned of their outer rough coat, ſhew elegant variegations, red and white, blue and white, and the like, and are uſually met with in that ſtate in our cabinets.

4. Of the oblong Mytuli, with the extremities unlike, which are alſo called Muſcles by authors, we have the following, 1. The reddiſh-brown, roſtrated Mytulus. 2. The yellow, oblong, and roſtrated Mytulus. 3. The narrow, rounded, and deep Mytulus, called the Sheath-muſcle. 4. The long-beaked, leſs hollowed Mytulus. 5. The ordinary, deep blue Mytulus. 6. The oblong, flatted, and rough Mytulus, called the Cat's-tongue Shell. 7. The flatted, red and white, variegated Mytulus. 8. The yellow, plicated Mytulus. 9. The flat, oval Mytulus, called the Leaf-muſcle by Rumphius. 10. The oblong, white Mytulus, with a granulated ſurface. 11. The reddiſh, tranſverſely ſtriated Mytulus. 12. The violet-coloured Mytulus, with the top ſtriated. 13. The oblong, reddiſh or yellowiſh, flat Mytulus, with longitudinal ſtriæ continued from the top to the baſe of the ſhell.

CARDIA.

THE Cardia is a ſhell formed of two valves, and reſembling the figure of a heart at cards: the valves are equal and gibboſe, or otherwiſe elated; they have no ears or appendages near the head, and are always either furrowed, imbricated, or ſpinoſe.

Of the Cardiæ, ſome approach to a globoſe, others to a triangular figure; others are irregularly oblong.

Cardia tenuis albida coſtis decem excavatis.
The thin, white Cardia, with ten hollowed ribs on the ſurface.

This is an extreamly ſingular and elegant ſhell; the valves are rounded and very deep; it is three inches in length from the hinge to the oppoſite verge, about as much in diameter, and but little leſs in depth: the head, where the hinge is placed, is prominent and obtuſe, and has much of the figure of the upper part of a heart at cards; there run along each valve, from the head to the verge, ten ridges or coſtæ; they are very high, of a triangular figure, edged at the top, and continued in the form of denticulations beyond the verge of the ſhell: they are hollow, but their cavity does not communicate with that of the ſhell; the whole is of a beautiful white, and ſo thin, that it is tranſparent, when held up to the light.

We have it from the coaſts of many parts of the Eaſt Indies, and ſometimes from South America.

Cardia profunde ſulcata ſpinoſa.
The deeply ſulcated and ſpinoſe Cardia.

This is a very large and elegant ſpecies; it is three inches and a half long, and at leaſt as much in diameter, and both valves are hollowed and elevated ſo much on the back, that the thickneſs of the ſhell, when cloſed, is not much inferior to it's length: the head is rounded and large, and the beaks of the two valves meet in ſuch a manner over the hinge, as to give the appearance of a heart: the colour of the ſhell is a greyiſh-white; it's ſurface is very deeply furrowed in a longitudinal direction; the furrows are placed at ſome diſtance, and the ridges between them are rounded: the prominent back of the ſhell is often ſmooth or naked, but toward the end and the edges there ſtand a vaſt number of long, ſharp, and robuſt ſpines, ſome of them ſtraight, others a little crooked.

It is not uncommon on the ſhores of the American iſlands: I brought more than a hundred weight of this ſpecies in a foſſile ſtate, laſt ſummer, from the ſtone pits near Yaxley.

Cardia

Cardia profunde ſulcata apicibus plano ſeparatis.
The deeply furrowed Cardia, with the tops ſeparated by a plane.

This is a very ſingular ſpecies: it is two inches in diameter, and about an inch and three quarters from the head to the oppoſite verge: the head is formed of two beaks, one to each valve; and theſe are rounded and turned inward, as in the others, but they do not meet or touch; a little below them there is a plane or flat part of the ſhell, in which is the hinge, and which keeps them from meeting: the hinge itſelf is of a very beautiful ſtructure; the notches of it are as fine as thoſe of a file: the valves are equal, and are extreamly thick and heavy; they are white, and of the conſiſtence and appearance of marble: they are deeply furrowed in a longitudinal direction, or from the head ſtraight downwards, the furrows widening as they recede from the head, ſo as to extend over the whole breadth of the ſhell; the ridges between theſe are low and rounded, and have frequently tubercles on them: there is ſomething in this ſhell that approaches, in ſome degree, to that odd ſpecies the Noah's Ark-ſhell.

This is a native of the American Seas; I have met with it foſſile in ſand-pits about Canterbury.

Cardia flava coſtata et elegantiſſime imbricata.
The yellow, elegantly ribbed, and imbricated Cardia.

Our cabinets ſhew very few more beautiful ſhells than this Cardia: it is a large ſhell; it meaſures four inches in diameter, and more than three and a quarter from the hinge to the oppoſite verge: the valves are equal, and are conſiderably gibboſe, ſo that the cavity within the ſhell is large; the ſurface of each valve is raiſed into five very large ribs, which are rounded at their tops, and ſtand at conſiderable diſtances; theſe run from the hinge to the oppoſite verge of the ſhell: the whole ſurface is covered with elegant tranſverſe plates or flakes, which run from edge to edge, the croſs-way holding their courſe uninterruptedly over theſe ribs, and over the hollows between them: theſe plates are thin, ſharp, and elevated at their rims above the ſurface of the ſhell, and are placed in an imbricated manner over one another: the verge of the ſhell is undulated and indented, or rather ſinuated, and the beaks joining at top form a heart: the colour of the external ſurface is a ſtrong and elegant yellow; the inſide is of a pearly white.

We have it from the ſhore of the Eaſt Indies; ſometimes from Africa.

Cardia truncata, coſtata, et aliquantulum ſpinoſa.
The truncated, coſtated, and ſomewhat ſpinoſe Cardia.

There are no ſhells that have, in the ſame genus, ſo great a variation of ſhapes as the Cardiæ: this is extreamly different in figure from the others hitherto deſcribed, in having one of it's ends truncated in the manner of the chamæ; it is two inches and a half in diameter, and about as much from the hinge to the oppoſite verge: the verge is rounded, and the valves are equal and very gibboſe: one ſide from the head runs out into a kind of obtuſe or rounded extremity, the other is truncated, and the mutilated part filled up by two perpendicular lips: the ſurface of the ſhell is ornamented with about ten large and rounded ribs; the cavities between them are narrow, and longitudinally furrowed, and, on ſome of the ribs, eſpecially toward the verge, there ſtand a few ſhort and obtuſe ſpinoſe protuberances: the ground colour of the ſhell is a greyiſh-white, but it is elegantly variegated with a fine coral red.

We have it from the Eaſt Indies, but it is not common in our collections: I have beautiful ſpecimens of it foſſile from the ſhores of ſome of the rivers in the Eaſt Indies, the ſubſtance agate.

Cardia globoſa echinata margine dentato.
The globoſe, echinated Cardia, with a dentated edge.

This approaches conſiderably to the ſhape of the common cockle, or pectunculus vulgaris of authors: it is about two inches in length, as much in diameter, and at leaſt

as

as much in thickneſs, when cloſed: the beaks at the top turn in over the hinge, and meet ſo, as to form a kind of heart-like figure, which is favoured alſo by the make of the whole ſhell, when viewed ſideways: the whole ſurface is deeply furrowed, and the ridges are continued at the edge, ſo as to form a dentated verge; they are all the way up furniſhed alſo with a kind of hollow, pyramidal ſquammæ, pointed at the ends: the ground colour of the ſhell is whitiſh, but it is variegated with ſpots of red and of yellowiſh.

This is not unfrequent on the ſhores of the Mediterranean, and in many other parts of Europe.

Cardia ſulcata apicibus diſtantibus.
The ſulcated Cardia, with the beaks diſtant.

This is a very ſingular ſpecies; it is about an inch and a quarter in length, and as much in diameter: the valves are equal, and they are large toward the baſe, and conſiderably elated and hollowed, but at the top they form each a beak, longer, ſlenderer, and more contorted than ordinary; theſe are placed at a diſtance, when the ſhell is cloſed, and make a very ſingular appearance: the whole ſurface of the ſhell is deeply furrowed in a longitudinal direction; the ridges are not much elevated, and the colour of the whole ſhell is a duſky white; ſometimes, though rarely, it is variegated with brown, and with a yellowiſh-red.

It is a native of the American Seas.

Cardia compreſſa elegantiſſima marginata. The Heart-cockle.
The elegant, compreſſed, and marginated Heart-ſhell.

This is a moſt extreamly elegant ſpecies, and is ſo tender and delicate, that, though we often had ſeen fragments of it, it was not till ſhells bore a price as merchandize that we met with it entire: it is about an inch and a quarter in length, and an inch in it's largeſt diameter, which is not as uſually from the oppoſite edges, but from the ridged and marginated backs of the ſhells: the valves are extreamly elevated in the back, and that not in the rounded manner of the reſt, but they form a ſharp ridge, which is ſurrounded with a narrow margin different from the reſt of the ſhell; they are pointed at the bottom, and have each it's twiſted beak at the top, and, when cloſed, make a much more perfect figure of a heart than any of the former: the whole ſurface is furrowed, and the ribs between the lines are not much elevated; it is extreamly thin, and it's colour is a plain and tolerably bright white on the outſide, and a brighter and purer white within.

We have it from the ſhores of the American iſlands, and ſometimes from the Eaſt Indies; thoſe from the latter place are more rare, but they do not at all excel the occidental ones in beauty.

Cardia gibboſa dorſo acuto marginato, variegata. The Venus heart-ſhell.
The ſharp-backed Cardia, with elegant variegations.

This is alſo an extreamly elegant ſpecies, and, if it wants any thing of the delicacy of ſtructure of the former, it excels it in the variety of it's colouring: it is an inch and a half long, and an inch and a quarter in diameter, meaſuring from the ridge of the back of one of the valves to that of the other: the figure is very regularly that of a heart at cards; the bottom is pointed; the top formed of the joining of two beaks, which indeed go a little over one another; and the edges of the two valves, where they join, are denticulated: the ſhell is thin and light, and is elegantly furrowed; the ridges riſing between the lines are rounded, and there runs each way a margin round the back of the valves, from the extream turn of the beaks to the points: the ground colour of the ſhell is white, but it is elegantly variegated with lines and ſpots of a deep and bright purple, and ſometimes with a few fainter clouds of yellow.

We have it on the coaſts of ſome of our American iſlands, and it has alſo been brought from the Eaſt.

The other ſpecies of the Cardiæ are theſe: 1. Of thoſe of a ſomewhat globoſe figure, there are, 1. The large, yellow, furrowed Cardia. 2. The greyiſh-brown,

ſpinoſe Cardia. 3. The ſnow-white, deeply-furrowed Cardia. 4. The large, ſquammated, globoſe, white Cardia. 5. The thick, white Cardia. 6. The elongated, irregularly depreſſed Cardia. 7. The great, white, echinated Cardia, with ſhort ſpines.

2. Of thoſe which approach near to a triangular form, there are, 1. The elegantly reticulated and ſpotted Cardia. 2. The ſtrawberry Cardia, or tuberculoſe, reddiſh cockle. 3. The white, elegantly ſtriated Cardia, with a finely denticulated edge. 4. The deeply furrowed, and elegantly variegated Cardia. 5. The more obſcurely variegated, ſtriated Cardia. 6. The ſtriated and bullated Cardia.

3. Of thoſe which are compreſſed and pointed at the baſe, and more regularly than any of the others reſemble a heart at cards, there are, 1. The ſnow-white Cardia, furrowed deeply within. 2. The little, purple Cardia. 3. The little, white, and protuberant Cardia. 4. The tall and very compreſſed Cardia.

4. Of thoſe which have the ſurface ſquammoſe or tabulated, and imbricated, there are, 1. The great, protuberant Cardia, with erect, broad, and roſe-coloured laminæ. 2. The compreſſed and deeply imbricated, brown Cardia. 3. The bright, red Cardia, with diſtinct and elegant white imbrications. 4. The white, large, imbricated Cardia, variegated with red.

5. Of the irregularly oblong Cardiæ, there are, 1. The furrowed, reddiſh Cardia, called the Noah's Ark-ſhell. 2. The yellow and white, ſlightly coſtated Ark-ſhell. 3. The elegantly variegated, more lightly ſtriated Ark-ſhell. 4. The thin, white, canaliculated Ark-ſhell.

6. Of the more regularly figured and leſs cordated ſubgloboſe kinds, there are, 1. The common browniſh, white, furrowed, and denticulated edged Cardia. 2. The larger and leſs denticulated-edged Cardia. 3. The little, red, deeply ſtriated Cardia. 4. The little, variegated, furrowed Cardia. 5. The large, ſomewhat oblong, deeply furrowed Cardia. 6. The larger variegated, deeply furrowed Cardia. 7. The flatter, oval, variegated Cardia. 8. The deeply furrowed, umbonated, flatter Cardia. 9. The roundiſh, ſinuated-edged, red and white Cardia. 10. The long and narrow, deep, coſtated Cardia. 11. The yellow and brown, coſtated and ſtriated Cardia. 12. The ſimply, ſtriated, elegantly variegated Cardia. The ſix former of this laſt diviſion are commonly called by authors Cockles or Pectuncles; and the reſt are called Pectines inauriti or ſcallops, without ears to the ſhell.

PECTEN.

THE Pecten is a bivalve ſhell, ſhutting cloſe all round, uſually of a depreſſed or flatted form, and always aurited, or having one or two proceſſes, called ears, iſſuing from the head of the ſhell near the hinge: theſe ears are in ſome large, in others ſmaller, and in ſome ſo minute, that it requires a nice examination to diſcover them; they are, however, a part of the generical character of the ſhell, and nothing, that is abſolutely without them, is to be received as a genuine ſpecies.

The greater part of the Pectens are ſtriated or coſtated; the ribs or ridges, running in ſtraight and even lines like the teeth of a comb, whence the genus has been named, but ſome of the genuine ſpecies depart from this character.

Pecten coſtatus, variegatus, auriculis magnis æqualibus.
The coſtated and variegated Pecten, with large and equal ears.

This is an elegant ſpecies; it's length is about two inches and a half, it's breadth two inches and a quarter, and the valves are very flat, or but little hollowed; it is rounded and ſinuated at the verge, and thence becomes ſmaller to the head, where it terminates in an oblong point; but from each ſide in this part there is propagated an auricle, which is continuous to the edge of the head, and runs down a third of an inch farther on the ſhell; theſe are what are called the ears of the ſhell; they unite at the top, and in that part riſe a little about the level of the head: the whole ſurface of the valves is ornamented with ribs; there are about twelve on each, and they are broad and rounded at the top, and have ſpaces equal only to about half their own diameter between them; the ears alſo are ſtriated and coſtated: the ground colour of the ſhell is white, but it is elegantly variegated with brown, in beautiful large ſpots.

We have it in great abundance on ſome of our own ſhores.

Pecten

Pecten coſtatus, ſtriatus, et tuberculoſus ruber auriculis inæqualibus.
The red, coſtated, ſtriated, and tuberculoſe Pecten, with unequal ears.

This is a very large and fine ſpecies; it is four inches long, about as much in diameter, and of a figure approaching to circular, but deeply and regularly ſinuated round the edges, and but little elevated on the back: the colour of the ſhell is a deep red, with an admixture of a purpliſh-brown; it is very rare there are any variegations on it; when there are, they are of a paler red or whitiſh: there are nine large and regular ribs on the ſurface; they are broad, depreſſed, and ſtriated, and have alſo ſeveral undulated protuberances on them, and ſome more regular ones, which are rounded, and ſome of them open at the top: the ears are large, but one of them is conſiderably more ſo than the other.

It is frequent on the ſhores of ſome parts of the Mediterranean.

Pecten echinatus auriculis inæqualibus.
The echinated Pecten, with unequal ears.

This is an elegant ſpecies, and is one of thoſe called by authors Semi-aurite, there being only one of the ears large, the other ſeeming but a rudiment of one: it is of an oblong and ſomewhat ovated form, but flat; it's length is two inches and a quarter; it's breadth, in the largeſt part, which is about the middle, is about an inch and three quarters; from this part it continues to form a rounded and ſlightly ſinuated verge one way, and the other way it grows ſmaller, till it forms an obtuſe point; on one ſide of this there ſtands a very large and fair ear, on the other there appear, as it were, only the remains of a truncated or broken one; but, when the ſhell is ever ſo entire, this ear is never of more than a fourth part of the length of the other: the whole ſurface of the ſhell is formed into fine and ſlender ribs; there are about twenty-ſeven of them on it, and the ſpaces they leave between them are very inconſiderable: each of theſe ribs is lightly ſtriated, and is beſet with a number of ſharp prominences, or ſhort ſpines from the verge, to two thirds of the length of the ſhell: the ground colour is a beautiful red, and the ſpines and part of the ribs are white.

It is not unfrequent on the coaſts of many parts of the Mediterranean.

Pecten rubeſcens flavo et albo variegatus, coſtis paucioribus.
The variegated Pecten, with fewer ribs.

The Ducal-mantle Shell.

This is the moſt elegant of all the family of the Pectens: it is three inches long, and nearly as much in breadth; the verge is regularly and beautifully ſinuated, and the head is furniſhed with two large and beautiful ears, nearly of the ſame bigneſs: there are about thirteen ribs on the ſurface; they are broad, and ſomewhat elevated in the middle, and leave fair ſpaces between them: the ground colour of the ſhell is a ſtrong and beautiful red; the edges are orange-coloured, and the ſurface is every-where beautifully variegated with yellow and white: the head of the ſhell is ſomewhat paler than the reſt, and the ears are very beautifully variegated.

It is a native of the European Seas, but is not common.

Pecten rubeſcens, coſtis depreſſis, albo eleganter variegatus.
The low-ribbed, red Pecten, variegated with white.

The Iriſh Scallop.

This alſo is an extreamly elegant ſpecies: it is about two inches long, and nearly as much in breadth, and has on the ſurface about fifteen ribs; they are broad, depreſſed, and placed at nearly equal diſtances from one another: the valves are very little elevated, and the ears are moderately large, and one a little bigger than the other: the ground colour of the ſhell is red, but this, in all the degrees, between the deepeſt purple and the paleſt fleſh colour, in the ſeveral ſpecimens: it is ſometimes uniform and uninterrupted, but more frequently it is variegated in an elegant manner, with white diſpoſed in irregular blotches.

It is found in great abundance on the Iriſh coaſts, and is a very great ornament to the grottoes and other ſhell-works of our ladies.

Pecten flaveſcens parvus elegantiſſime ſtriatus.
The little, yellow, elegantly ſtriated Pecten.

This is a very ſingular ſpecies: it's length is about an inch; it's breadth, in the largeſt part, full as much, and it's head or ſummit pointed, but ornamented with a pair of large and fair ears, very nearly equal in ſize: the verge, at the oppoſite extremity, is rounded, and is even not ſinuated as in moſt of the other ſpecies: there are on the ſurface about ſix ribs; they are very broad, depreſſed, and ſtand at ſmall diſtances, and both theſe and the intermediate ſpaces are ſtriated in a very elegant manner: the colour of the whole ſhell is a browniſh-yellow, ſometimes a little variegated with a fainter yellow or with white, but this very rarely.

It is found on the ſhores of ſeveral parts of the Mediterranean, and makes a very ſingular figure in the cabinets of our collectors.

Pecten tenuiſſimus fuſcus, tranſverſim ſtriatus, auriculis parvis æqualibus.
The ſmall-eared, very thin Pecten, with tranſverſe ſtriæ.

This is the moſt ſingular of all the Pectens: it is about two inches and a half in diameter, and is nearly round; the edges are every-where even, not at all indented or ſinuated, and the head is furniſhed with two ſmall and very regular equal ears: the valves are but little elevated, and there is not, on either of them, the leaſt appearance of thoſe ribs, which are almoſt univerſal to the other ſpecies of this genus: the ſhell is extreamly thin, light, and brittle, and is of a pale brown colour; it's whole ſurface is elegantly ſtriated, but the ſtriæ do not run longitudinally as in the other Pectens, but tranſverſely, or in ſomewhat rounded lines, beginning near the head where they are leaſt diſtinct, and continued in larger circles to the bottom of the ſhell.

It is a native of the American Seas.

The other ſpecies of the Pecten are conſiderably numerous, and moſt of them beautiful.

1. Of thoſe which have two ears, both of conſiderable ſize, whether equal or not, there are, 1. The large, rounded, depreſſed Pecten, called the red Ducal-mantle. 2. The large, rounded, coſtated and ſtriated, yellow Pecten, called the yellow Ducal-mantle. 3. The narrower-ribbed and very elegantly variegated Pecten. 4. The gold-yellow, broader-ribbed Pecten, of the Caſpian Sea. 5. The very large, reddiſh Pecten, or common eſcallop. 6. The great, variegated, bluiſh-red Pecten. 7. The elegant, red, furrowed Pecten. 8. The yellow and white Pecten, called the Umbrella-ſhell. 9. The white and ſpotted Pecten, with narrow and numerous ribs. 10. The yellow, high-ribbed Pecten. 11. The reddiſh Pecten, with both the valves hollowed. 12. The pyriform or depreſſed, ovated Pecten. 13. The elegant, pale red and white, narrow-ribbed Pecten. 14. The elegantly marbled and poliſhed Pecten. 15. The rough Pecten, with a multitude of yellow ſpots. 16. The yellow and purple broad-ribbed Pecten.

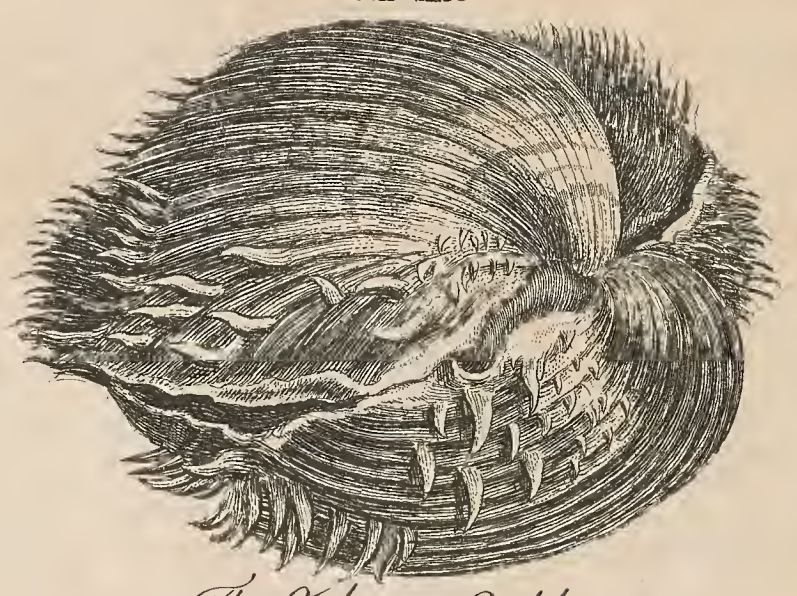
2. Of thoſe which have one of the ears very much ſmaller than the other, or ſuch as are called the ſemi-aurited Pectens by authors, there are, 1. The black, aculeated Pecten. 2. The red, ſpinoſe Pecten, with ſhort ſpines. 3. The grey, tuberculoſe Pecten. 4. The orange-coloured, echinated Pecten. 5. The variegated, echinated Pecten, with broad ribs. 6. The white, ſmooth Pecten.

3. Of thoſe which have both auricles ſo ſmall, that they appear wanting, and are therefore called earleſs, or inaurite Pectens, there are the following, 1. The rough, red and brown Pecten. 2. The oblong, white, ſubechinated, or rough Pecten. 3. The yellow, coſtated Pecten, with the laciniated verge. 4. The elegantly variegated Pecten, with the variegated verge. 5. The thick, blue and yellow, variegated Pecten, with rounded ribs reſembling cords. 6. The ſmooth, elegantly variegated Pecten. 7. The white, rounded Pecten.

Cardia



The Heart Cockle



The Oxheart Cockle



The Venus Heart Shell



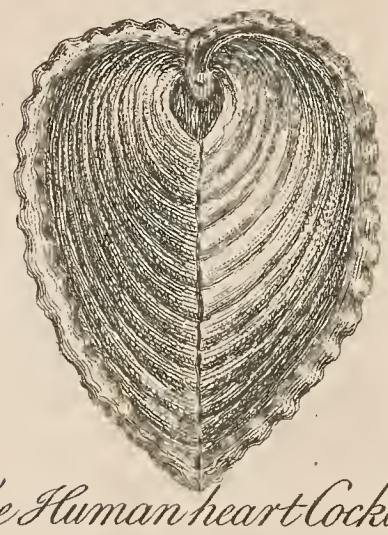
The Triangular Heart Cockle



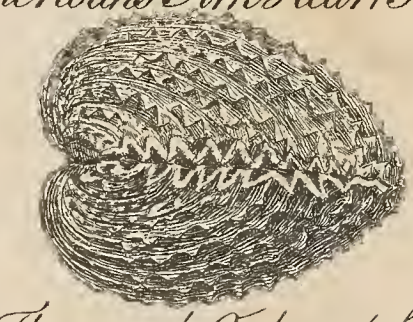
The Noahs Ark Heart Shell



The Exotick heart Cockle

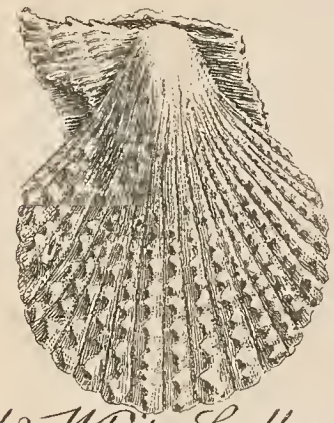


The Human heart Cockle

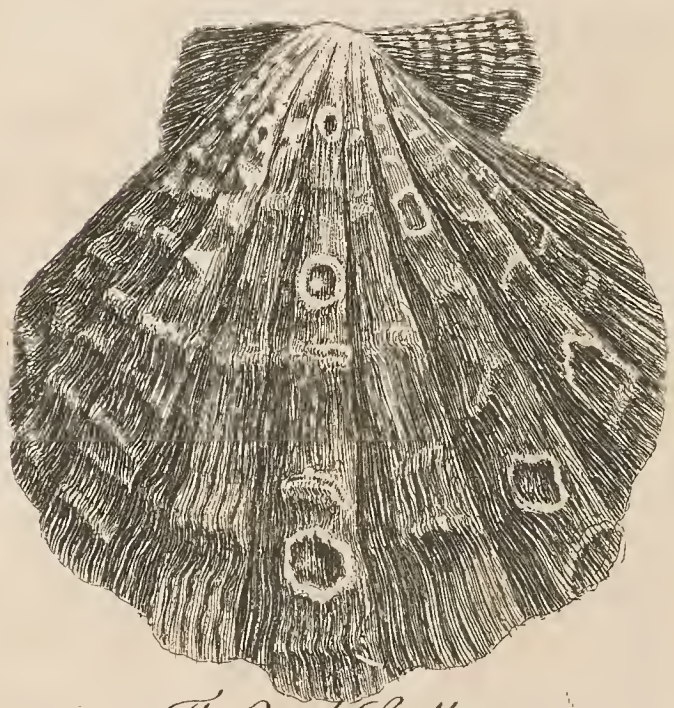


The rough Oxheart Shell

Pectines



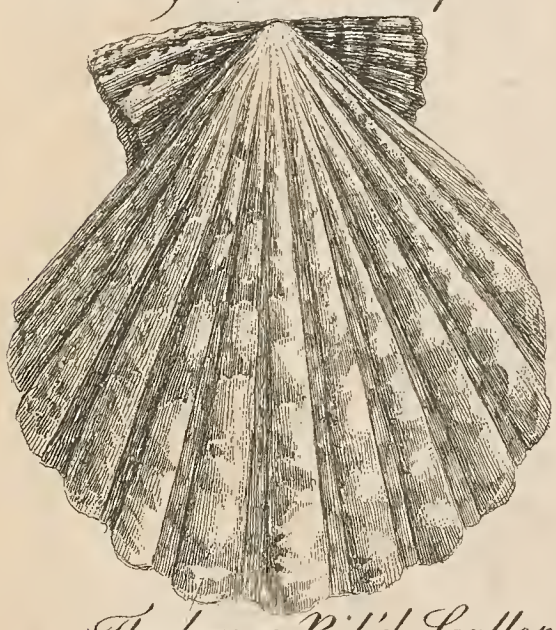
The Red & White Scallop



The Coral Scallop



The little Yellow Scallop

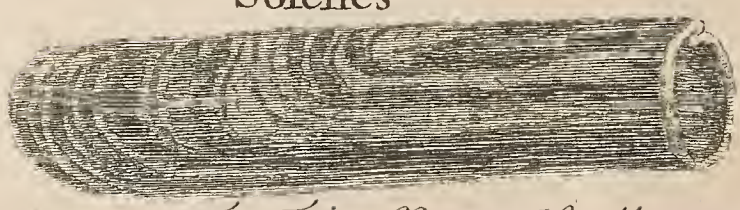


The large Rib'd Scallop



The Ducal Mantle Scallop

Solenes



The Thick Razor Shell



The Thin Scallop



The Blueish Crooked Razor Shell



The little Strait Razor Shell

B. Cole Sculp.

SOLEN.

THE Solen is a bivalve ſhell, of an oblong and ſomewhat rounded figure, with both the extremities open. The animal inhabiting it is a Tethys.
Some of the ſpecies are ſtraight, and others are crooked.

Solen rubeſcens craſſior.
The thick, red Solen.

This is a very beautiful ſpecies: it is about three inches long, and of the thickneſs of a man's finger; it's ſurface is ſmooth, only that toward one of the extremities there are a few arcuated lines of a ſomewhat furrowed ſtructure, and ſeeming to expreſs the terminations of ſo many plates of the ſhell, begun at the thicker end, and not continued quite to the other: the whole ſhell is conſiderably thick for one of this genus, but the end where the plates are entire is thicker than the other; both extremities are open, to the full extent of the diameter of the ſhell: the colour is an elegant pale red, varied, in degree, from the ſtrongeſt damaſk roſe colour to the fainteſt fleſhy tinge.
It is a native of the Eaſt Indies.

Solen arcuatus cæruleo et fuſco variegatus.
The arcuated Solen, variegated with brown and blue.

This is ſix inches long, and three quarters of an inch in diameter; it is of equal thickneſs from one end to the other, but is not ſtraight as the former ſpecies, and moſt of the other Solens, but ſomewhat arcuated or bent in the manner of a bow: the ſurface is naturally ſmooth and gloſſy, but there are the extremities of ſo many broken and otherwiſe imperfect plates always ſeen on it, that it never is tolerably uniform: it is variegated with brown, and a beautiful violet-blue on the outſide, and is of a pearly white within.
We have it on our own coaſts; and it is common alſo on moſt others of the European, as well as on the North American, ſhores.

Solen rectus tenuior fuſco et albo pictus.
The ſlender, ſtraight, brown and white Solen.

This is three inches long, and ſcarce a third of an inch in diameter; it is perfectly ſtraight, and is open to it's full extent at both extremities: it's ſurface is rendered irregular, as in the others, by the extremities of imperfect plates, otherwiſe it would be ſmooth and of a natural fine poliſh throughout: the ground colour is an elegant olive-brown, but where the imperfect plates terminate, and in ſome other places, it is varied with white: the inner ſurface is throughout of a pearly white.
It is frequent on the ſhores of the Eaſt Indies, and of ſome parts of Europe; the antients have called this the female Solen, and have named the common larger brown Solen the male.

Solen papyraceus purpuro-violaceus.
The violet-purple, papyraceous Solen.

This is by far the moſt elegant of all the Solen kind; it is four inches long, near half an inch in diameter, and is equally open at both ends, to the full extent of the ſhell: it's whole ſubſtance is not thicker than that of a ſheet of tolerably thick paper, and is ſo brittle, that it is eaſily cruſhed to pieces: it's ſurface is rendered irregular, by the terminations of imperfect plates, and it's colour is a moſt elegant bluiſh purple, approaching to the deep tinge of the violet, but with more of the red in it.
It is found on the ſhores of the iſland of Ormuz, in the Perſian Gulph, and in ſome parts of the Eaſt Indies; the perfect ſpecimens are ſuch, as have been carefully dug out of the ſands, under two or three feet water at low tides: thoſe found on the ſhores are uſually broken.

The other ſpecies of the Solen are, 1. The large, brown, common Solen, called the Razor-ſhell and Sheath-ſhell, and by ſome authors the male Solen. 2. The very ſlender and much arcuated, grey Solen. 3. The brown and reddiſh, ſtraight, thick Solen, red on the inſide. 4. The ſnow-white, ſtraight Solen. 5. The elegant, American, variegated Solen. 6. The blue and brown Solen, called the Onyx-ſhell. 7. The long, thick Solen, called the Pipe-ſhell. 8. The ſlender, brown and red, ſomewhat crooked Solen, called the Finger-ſhell. 9. The thicker, variegated Solen, called the Reed-ſhell. 10. The very long and ſlender Solen, of a deep brown, variegated with a paler. 11. The foliated Solen, called the Sabre-ſhell. 12. The ſhort, thick, olive-coloured Solen.

SHELL-FISH.

Claſs the Third.

MULTIVALVES.

Such as have the outer covering or ſhell compoſed of more than two pieces, or valves.

OF theſe there are only four genera: 1. The Balani. 2. The Pollicipedes. 3. The Conchæ Anatiferæ, as they have been uſually called, by us the Pentelaſmes; and, 4. The Pholades.

BALANUS.

THE ſhell of the Balanus is of an oblong figure, approaching to that of an acorn, open at the mouth or top, and compoſed of ſeveral portions or valves, from ſix to twelve in number, not moveable or looſe as in the other bivalve or multivalve ſhells, but fixed to one another by an intermediate ſubſtance.

The animal which inhabits this ſhell is a Triton, a genus deſcribed before in it's place.

Balanus major ſtriatus ore ampliore.
The great, ſtriated Balanus, with a large mouth.

This is the largeſt of all the Balani, and that in which the figure, ſtructure, and parts of the ſhell and it's incloſed animal may be the moſt diſtinctly ſeen: it is about an inch and half in height, and more than an inch in diameter in the largeſt part, which is a little lower than the middle: the baſe is broad, and is firmly affixed to ſome ſolid ſubſtance; the top is nearly of equal diameter with the baſe, and is wide open; the mouth is not regularly round, nor is it's verge even, ſome part of it ſtanding up irregularly above the reſt: the ſhell is compoſed of twelve valves or laminæ, of a ſlender and ſomewhat pyramidal figure: they touch one another or join at the baſe, but, as they grow narrower toward the top, they recede from each other, and at the very ſummit are conſiderably diſtant: they are not looſe or moveable at the animal's pleaſure, but are united firmly to one another, by an intermediate, ſhelly matter, ſomewhat thinner than themſelves, and of a paler colour: the valves or ribs of this ſhell are ſtriated longitudinally, and are of a browniſh-red: the intermediate ſubſtance is of a paler hue, with leſs of the brown in it, and is irregularly undulated in a tranſverſe direction: the inner ſurface is of a whitiſh colour, with an admixture of fleſh colour and blue.

The included animal has an armature compoſed of four pieces, of a triangular form at it's head, and from the center of theſe there iſſue the arms of the creature: theſe four pieces of armature ſerve it at other times for the cloſing the aperture, at which foulneſſes of various kinds would get in, to the great annoyance of the animal.

It is frequent on the ſhores of the Eaſt and Weſt Indies, adhering to rocks, and to the ſhells of the larger ſhell-fiſh; ſometimes to the bottoms of veſſels that have lain ong in harbour: great numbers of them are uſually found affixed ſide by ſide to one another.

Balanus

Balanus fuſcus ore ampliſſimo campanulatus.
The bell-faſhioned, very large-mouthed Balanus.

This is a very ſingular ſpecies; it is uſually found in vaſt cluſters or congeries, fixed to one another at the tops, and forming a kind of reticulated ſurface in the whole, with large cavities underneath, between the bodies of the ſeveral individuals, which ſerve as a happy receſs for the habitation of ſea-worms of many kinds: the ſhell is narroweſt at the baſe, where it is affixed to ſome ſolid body, and thence becomes gradually wider to the very top, where it is broad, open, and as it were bent a little down at the verge, ſo as to exhibit, in the whole, ſome reſemblance of the figure of a bell: it is compoſed of eight firm and hard portions, of a conic form, very diſtant at their ſummits, but connected by a firm, ſhelly ſubſtance, ſomewhat thinner than their own: the colour of the whole is a browniſh-grey; the ribs more grey, and the intermediate matter more brown.

We have large cluſters of this ſpecies ſometimes from the American iſlands, affixed to wood that has lain long under water; but they uſually come to us imperfect and injured by the carriage.

Balanus humilis ore amplo.
The low Balanus, with a large mouth.

This is about three quarters of an inch high, and more than half an inch in diameter; it uſually is found in large cluſters, and the ſeveral individuals that form theſe are ſo cloſely connected, that their inner ſurface is much more conſpicuous than the outer: this is of a pale whitiſh-grey, with an admixture of brown, and a ſlight tinge of red; the ſeveral variegating colours are ſeen much more diſtinctly in ſome parts, than in others. When the cluſter is broken, and a ſingle ſhell examined, it's outer ſurface ſhews that it is compoſed of ſix parts or valves, connected together by an intermediate, firm, ſhelly ſubſtance: the valves or ribs are thick, ſtriated, and of a pale red, with an admixture of grey and of brown: the intermediate matter of the ſhell is of a yet paler red, with nothing of the brown in it: the largeſt part of the ſhell is near the baſe; the verge is a little contracted from this greateſt diameter, but is ſtill very large: the whole ſhell has ſomewhat of the appearance of a drinking cup, and has been thence called the Chalice or Cup-ſhell.

It is not uncommon on the rocks and harder ſea plants about the American ſhores.

Balanus ellipticus griſeo rubeſcens, ore anguſtiore.
The narrow-mouthed elliptic, greyiſh-red Balanus.

This is an extreamly elegant ſpecies; it uſually grows in cluſters of twenty, or more, together, and has a very ſingular and pretty appearance: they do not all ſtand upright, as in moſt of the other ſpecies, but are very cloſe at the baſe, and more diſtant toward the top, ſo that they uſually form a cluſter of a hæmiſpheric figure, of which the extream ones are conſequently in an inclined, and ſometimes almoſt in an horizontal, direction: the ſingle ſhell, ſeparated from the cluſter, is about half an inch long, and nearly a third of an inch in diameter: it's thickneſs is nearly equal all the way, but at the baſe it is ſomewhat narrower than elſewhere, and the top is contracted, and the edges are drawn inward, ſo as to leave but a ſmall opening by way of mouth: the ſhell is compoſed of twelve valves or portions, which are connected indeed by an intermediate ſubſtance, as in the others; but they ſtand ſo cloſe all the way, that the intermediate ſubſtance is very little, and, the valves being more elevated, it ſcarce appears at all: the valves are all deeply ſtriated, and the colour is a duſky grey, with a conſiderable admixture of reddiſh in it.

We have this ſpecies from the Eaſt Indies, and from ſome parts of America.

Balanus tenuior valvis elevatis, ore anguſtiore.
The narrow-mouthed, ſlender Balanus, with elevated valves.

This is a very ſingular ſpecies; it is three quarters of an inch high, and not more than a third of an inch in diameter in the largeſt part, which is a little lower than the middle: the baſe is ſomewhat ſmaller than this part, and the ſummit is much more ſo; the verge of the ſhell is contracted, and the aperture or mouth ſmall: it is formed of eight valves, connected by an intermediated thinner ſubſtance: the valves form ſo many ribs, as it were, approaching very near one another at their ſides; but, their form rendering the intermediate ſubſtance viſible, it is diſtinctly ſeen, though not broader than in the former ſpecies, in which it is ſcarce viſible at all: the ribs are of a rounded form, conſiderably elevated in the middle, and are of a browniſh-grey colour; the intermediate matter is of a pale grey, without any admixture of the brown.

This ſpecies is extreamly common in the Eaſt Indies, and on the coaſt of Africa: it has alſo been brought from ſome of the European ſhores.

Balanus tenuior valvis ſtriatis purpuraſcens, ore anguſto.
The purple, narrow-mouthed, ſlender Balanus, with ſtriated valves.

This is three quarters of an inch high, and little more than a third of an inch in diameter: it is largeſt at the very baſe, and thence grows gradually ſmaller all the way to the top; ſo that, where there are large cluſters of it, there are found tolerably large ſpaces between the extremities, which become gradually ſmaller all the way toward the baſes of the ſhells: each ſhell is compoſed of only ſix valves or ribs, which are broadeſt at the baſes, and there touch one another; but, growing narrower all the way, they are connected by a thin but ſufficiently firm ſhelly matter, which toward the top makes by much the greater part of the ſubſtance: the valves or ribs, as they are called by many, are flatted, and deeply, but not very regularly, ſtriated, in a longitudinal direction: the intermediate ſubſtance is undulated tranſverſely; the verge is ſomewhat contracted toward the center, ſo as to form a narrow mouth: the whole ſhell is of an elegant purple colour, but the ribs are deeper, and have more of the blue, the intermediate matter is paler, and has more of the red.

We have it from the American ſhores, but it is not common.

Balanus tenuior ſtriatus griſeo-albeſcens, ore anguſto.
The greyiſh-white, ſtriated, ſlender Balanus, with a narrow mouth.

This is a ſmall ſpecies; it rarely exceeds a third of an inch in length, and is hardly equal to a third of it's length in diameter: it is broadeſt at the baſe, and thence becomes gradually ſmaller to the top, where it is contracted inward a little, ſo as to form but a narrow mouth: the colour is a greyiſh-white, and the whole ſhell ſo thin, that it is eaſily cruſhed and broken: it is compoſed of only ſix valves, which are largeſt at the baſe, and thence become gradually ſmaller to the top; they are ſtriated in a longitudinal direction, and the ſtriæ are deepeſt and moſt diſtinct toward the top; in the lower part they are ſcarce viſible: the intermediate matter is alſo irregularly undulated, but it is in a direction contrary to that of the valves.

This ſpecies is frequent about our own ſhores, on ſtones, and on the ſhells of other ſhell-fiſh.

Balanus tenuior ore anguſto, valvis anguſtiſſimis rotundatis flavis.
The ſlender Balanus, with a narrow-mouth, and with the valves rounded and yellow.

This is about half an inch in height, and is barely a quarter of an inch in diameter in the largeſt part, which is toward the middle; from this part to the baſe it becomes gradually a little ſmaller, and toward the ſummit more ſo: it's colour is a duſky browniſh-yellow on the ribs or valves, and a paler yellow, with leſs of the brown in it between them: the valves are twelve in number; they are very narrow, of a rounded figure, and ſtand at very ſmall diſtances.

It

It is a native of the Eaſt Indies, and frequently comes to us in great abundance, on the bottoms of our India ſhips.

The other ſpecies of the Balanus are, 1. The large, open, brown Balanus. 2. The large, open, grey, and reddiſh Balanus. 3. The low, broad, and undulated Balanus, called the Turban-ſhell. 4. The elegantly ſtriated and variegated Balanus, called the Tulip-ſhell. 5. The broad-mouthed, purple and brown Balanus. 6. The broad-mouthed, grey Balanus. 7. The tall, broad-mouthed, elegantly variegated Balanus. 8. The very low, brown, open Balanus.

Of the narrower-mouthed kind there are, 1. The little, low, ſtriated, narrow-mouthed Balanus. 2. The little, elegant, red, narrow-ribbed, ſmall-mouthed Balanus. 3. The ſlender, tall, broad-ribbed, deep purple Balanus. 4. The narrow, high-ribbed, ſmall-mouthed, orange-coloured Balanus. 5. The thicker, grey Balanus, with a contracted and corrugated mouth. 6. The thick, corrugated-mouthed, purple and grey Balanus.

POLLICIPES.

THE Pollicipes is a Shell-fiſh of the multivalve kind; it has a long, thick, and fleſhy pedicle, ſmaller at the baſe, and largeſt at the top, on the ſummit of which ſtands the ſhelly covering of the body of the animal; this is compoſed of a conſiderable number of ſhelly laminæ, of different ſhapes and ſizes, but all together forming a triangular body, from the opening of the two ſides of which the creature thruſts out it's arms.

The animal inhabiting this ſingularly conſtructed ſhell is a Triton, deſcribed in it's place.

Pollicipes ſubcæruleus pediculo corpore longiore.
The bluiſh-grey Pollicipes, with the pedicle longer than the body.

This is a very ſingular and remarkable animal: the pedicle is an inch long, and at the top it is a third of an inch in diameter, and near a quarter of an inch at the baſe; it is of a tolerably firm fleſhy ſtructure, and is covered with a tough and thick ſkin, granulated on the ſurface, and furrowed irregularly in a tranſverſe direction: at the top of this ſtands the ſhelly covering of the body of the animal; this is about half an inch long, and of a pyramidal figure; it is at the baſe equal in diameter to the top of the pedicle, and it terminates in a tolerably ſharp point: it is compoſed of an uncertain number of valves or pieces, the middle ones the largeſt, the reſt ſmaller, and ſurrounding them at their baſes; they are all of them of a pyramidal figure, and ſhut very cloſely and exactly, unleſs when the creature chuſes to throw out it's arms: the pedicle is of a browniſh colour, the ſhelly part a mixt bluiſh, grey, and white.

This ſpecies uſually is found in great cluſters together, and is not uncommon on the ſhores of the North of Ireland, and in many other parts of Europe: the pedicle, when cut, is found to be compoſed of a fine white and firm fleſhy matter, like the fleſh of a lobſter; this becomes red on boiling, and is a pleaſant and wholeſome food. It is eaten in moſt places, where the creature is found in any plenty, and has much of the taſte of the cray-fiſh.

Pollicipes ſubruber pediculo longo graciliore.
The reddiſh Pollicipes, with a long and ſlender pedicle.

This ſpecies is, in the whole, about two inches in length; the pedicle is more than an inch and a half, the ſhelly part about a third of an inch: the pedicle is about a quarter of an inch in diameter, and is equally thick all the way up: it's ſurface is deeply wrinkled in an irregular manner, but moſt of the wrinkles run tranſverſely; it's colour is a pale whitiſh-red, and it's ſubſtance fleſhy, but leſs firm than in the former ſpecies: at the top of this ſtands the ſhelly part, which is of a pyramidal figure, but ſhort in proportion to it's breadth, and is compoſed of an irregular and uncertain number of parts or valves, ſome large, others very ſmall, but all of a pyramidal figure: they ſhut very cloſe, and are of a whitiſh-red colour.

This ſpecies is found on the coaſts of the North of England, but it is not common; it uſually adheres in cluſters to wood that lies under water.

Pollicipes albeſcens pediculo corpore breviori.
The white Pollicipes, with the pedicle ſhorter than the body.

This is about three quarters of an inch in length; and, in the largeſt part, which is at the head of the pedicle, it is about half an inch in diameter: the body is of a pyramidal form, and is ſomewhat more than equal to the pedicle in length; it is compoſed of a great number of oblong, pyramidal pieces of different diameters, and of a whitiſh colour: the pedicle alſo is white, and is thickeſt at the top, whence it goes all the way ſmaller to the baſe.

This ſpecies is uſually formed in conſiderable numbers together, and is not uncommon on ſome of our northern coaſts.

Pollicipes pediculo longiſſimo diſtento.
The Pollicipes, with a very long and diſtended pedicle.

This is a very ſingular ſpecies, and makes a very different figure from all the reſt; it's pedicle is the moſt conſpicuous part of it: this is four inches long, and diſtended to three quarters of an inch in diameter; it reſembles a portion of a gut of ſome animal, filled with a reddiſh fluid: this is of equal, or nearly equal, diameter all the way, and is affixed at one end to ſome ſolid body, and at the other is terminated by a ſhelly part, like the bodies of the former ſpecies; this is about three quarters of an inch long, and is nearly equal in diameter to the pedicle at it's baſe, but grows gradually ſmaller to a point at the top: it appears ſmall, in proportion to the pedicle, and is of a reddiſh colour, and formed of a great number of valves.

We meet with this on the Lancaſhire coaſt in great abundance; the fluid, filling and diſtending the pedicle, is of a gelatinous ſubſtance and inſipid taſte.

Pollicipes purpureus pediculo breviore diſtento.
The purple Pollicipes, with a ſhorter, diſtended pedicle.

This is ſomewhat like the preceding ſpecies, but it is larger in the body, and ſhorter and ſlenderer in the pedicle: the body or ſhelly part is an inch long, and half an inch in diameter at the baſe: it is compoſed of an irregular number of thin, pyramidal pieces of various ſizes, and of a purpliſh colour, variegated with white: the pedicle is two inches and a half long, and half an inch in diameter: it's ſurface is ſmooth, and it reſembles, like the former, a thick membranous bag, filled with a reddiſh fluid: this is a thick, gelatinous matter, of an inſipid taſte: the membrane, which incloſes it, is tough and firm, but it is not very thick.

We have this alſo on the Lancaſhire coaſt, and on ſome other of our ſhores; it uſually is found ſingly, not in cluſters, but often many near one another.

The other ſpecies of the Pollicipes are, 1. The oblong, yellow Pollicipes, with a ſhort, fleſhy pedicle. 2. The oblong, variegated Pollicipes, with a long conic, fleſhy pedicle. 3. The white, long, and ſlender, pedicled Pollicipes. 4. The bluiſh, ſhort, and thick, diſtended-pedicled Pollicipes. 5. The bluiſh, longer and thicker diſtended Pollicipes. 6. The ſlender pedicled, diſtended, red and white Pollicipes.

The fiſh or animal, contained within the ſhelly part of the Pollicipes, is very like that in the following genus, called by authors Conchæ Anatiferæ; but the arms are longer and more deeply fringed, ſo that they reſemble feathers ſtill more than thoſe of that genus. The error of ſuppoſing birds to be produced out of thoſe has alſo extended itſelf to theſe, and they are called Gooſe-ſhells and Barnacle-ſhells in the North of England, as well as the others.

PENTELASMIS.

THE Pentelaſmis is a genus of animals, compoſed of a ſhelly body, affixed to a fleſhy and ſoft pedicle: the body is compoſed of five valves, and the pedicle is ſometimes ſhort, and in other ſpecies conſiderably long.

The

The animal inhabiting the ſhelly body of this genus is a Triton: the arms of this creature, being long, ſlender, and fimbriated, have, while they are expanded in the water, ſomewhat of the appearance of feathers; and, as the bodies themſelves, uſually adhere, by means of their fleſhy pedicles, to old wood, and the trunks of trees fallen into the ſea. It became firſt an opinion, that a bird of the gooſe kind was produced from them; and afterwards it was affirmed, that the ſhells themſelves originally grew on the trees, in the manner of their fruit: from this aroſe the opinion of the barnacle or brent gooſe being the produce of a tree; and there have not been wanting authors, who, though they had ſeen the fallacy, and known in what manner only it was that theſe kind of ſhells were found on trees, have propagated it, by delivering their accounts in ſuch words, as gave room to believe they had ſeen them growing on the trees in the manner of their fruit.

Pentelaſmis ſubrubens pediculo annulato.
The reddiſh Pentelaſmis, with an annulated pedicle.

The Gooſe-ſhell, or Barnacle-ſhell.

This is the ſpecies deſcribed, by the generality of authors, under the name of Concha Anatifera, and is that which was originally ſuppoſed to produce the gooſe; the others, both of this and the preceding genus, were afterwards deſcribed in it's place, and under it's name. It is a tender and brittle Shell-fiſh; it's length is about an inch, and it's diameter three quarters of an inch: it is compoſed of five broad and angulated valves or parts, which together form an oblong body, ſhutting up tolerably cloſe in all parts, except when the fiſh has a mind to thruſt out it's arms: this ſhelly part is of a pale red or fleſh colour, variegated with white; and it adheres to a neck of an inch long, and of about a fifth of an inch in diameter, by means of which it is affixed to old wood, or to ſtones and ſea-plants, or any other ſolid ſubſtance that lies under water: this pedicle or neck, as ſome call it, is of a browniſh colour, and annulated ſtructure, and is firm, tough, and fleſhy.

We uſually meet with vaſt numbers of this ſpecies together, on the old piles, and other pieces of wood that have been long fixed under water, and not unfrequently on the bottoms of ſhips that have been long in harbour: ſometimes the larger ſtones, at ſmall depths, are covered with them.

Pentelaſmis albeſcens pediculo granulato craſſo.
The whitiſh Pentelaſmis, with a thick, granulated pedicle.

This ſpecies is, in the whole, about an inch and a half in length, including the pedicle: the body is formed of five broad and irregularly angulated ſhells, and is of an oblong figure, ſomewhat flatted, and obliquely truncated at the extremity: they are of a whitiſh colour, with a faint admixture of blue; the pedicle is very thick and ſhort; it is not more than half an inch in length, and is continuous to the whole lower extremity of the body, and equal to it in diameter: it is of a browniſh colour and fleſhy texture; it's ſurface is ſlightly annulated, the annules, being narrow, ſcarce diſtinguiſhable, and nicely connected to one another; but the whole ſurface is granulated or chagrined.

We have this in ſeveral of the Northern Seas; it uſually grows to the branches of the larger ſea-plants, and, as it is frequently in conſiderable numbers together on the ſame plant, ſome have figured the whole together, and made their readers underſtand the plant as the ramoſe pedicle of the ſhell.

Pentelaſmis violaceus pediculo longiore et tenuiore.
The violet-coloured Pentelaſmis, with a long, ſlender pedicle.

This is about three quarters of an inch in length in the body, and half an inch in diameter; it's figure is oblong, and obliquely truncated at the upper extremity, where it is ſmalleſt; and it is compoſed of five irregularly angulated and flat pieces: it's colour is a fine, deep, violet-blue, variegated with a paler greyiſh-blue, and with white; the pedicle is fleſhy; it is two inches long, and is not much thicker than a whipcord, ſo that it is ſcarce able to ſupport the ſhell erect.

We have it in the North about our coaſts of Yorkſhire and elſewhere.

The

The other ſpecies of the Pentelaſmis are, 1. The very ſhort pedicle, obtuſe, bluiſh Pentelaſmis. 2. The ſhort and thick pedicled, very ſmall-bodied Pentelaſmis. 3. The long and diſtended-pedicled, very thin-ſhelled Pentelaſmis, called by the people of Lancaſhire the Sea-Sauſage. 4. The long and diſtended-pedicled Pentelaſmis, with an oblong, obliquely, truncated, blue and white, very elegantly variegated body. 5. The ſmall but diſtended-pedicled Pentelaſmis, with a fleſh-coloured, oblong body.

All theſe ſpecies are found on old piles and trees fallen into the ſea, on the northern coaſts of our own kingdom: they all throw out their fimbriated arms, at times, from the body of the ſhell, and the common people, ſuppoſing theſe to reſemble feathers, keep up the tradition of the gooſe-ſhell, by declaring, that all theſe produce, at a certain period of the year, young birds of that genus.

PHOLAS.

THE Pholas is a Shell-fiſh of the multivalve kind, and, like the former ſpecies, has it's outer or ſhelly covering made up of five pieces: theſe, however, are not, as in that genus, thin flaky ſcales, as it were, but are of the general form and ſtructure of the other ſhells: they are alſo very ſingular in their proportions and arrangement; two of them are large, and reſemble thoſe of the ordinary bivalve ſhells in all reſpects; and theſe ſeem, on a ſlight view, to compoſe the whole ſhell, which therefore appears of the bivalve kind; but a farther examination diſcovers the other three portions or valves, if they may be ſo called; theſe are ſmall, and ſerve to cloſe up an opening left by the irregular meeting of the two principal valves.

The animal inhabiting the Pholas is a Tethys.

The name Pholas has been very greatly miſapplied by the writers on natural hiſtory, and great errors and confuſion have ariſen from this. The Pholades, properly ſo called, inhabit holes wonderfully made in ſtones, and other ſolid bodies: the corals of the larger kinds ſometimes ſerve as nidus's for numbers of them, and the bottoms of our ſhips frequently afford ſpecimens of them; they lie at different depths in theſe receſſes, and thruſt out a kind of proboſcis to the orifice: this ſingular quality in the Pholades has been underſtood by many as peculiar to them; and, in conſequence of this, every ſhell-fiſh found living in the bodies of ſtones, &c. has been called a Pholas; but there are bivalve ſhells of the common muſcle and chama kinds, which live in the ſame manner: theſe we are to ſeparate out of the genus of the Pholas, where too many have placed them, as the ſtructure of a ſhell, not it's habitation or manner of living, is to determine it's genus.

Pholas albeſcens oblongus cancellatus et aſper.
The oblong, white, cancellated, and rough Pholas.

This is two inches in length, and about an inch and a quarter in diameter in the broadeſt part, which is toward the middle, but nearer the head than the other extremity: the whole ſhell is compoſed of five pieces or valves; two of theſe are large and lateral; theſe have all the appearance of the valves of the ordinary bivalve Shell-fiſh; behind theſe there are two other dorſal valves; theſe are very ſmall, ſomewhat broad and ſhort, and beſide theſe there is a fifth a ſingle one, which is very long and narrow, and is extended under the hinge: the colour is a whitiſh, with a faint admixture of a yellowiſh or browniſh among it; and the ſurface of the two large valves is deeply furrowed, both in a longitudinal and tranſverſe direction, ſo that the whole appears cancellated or divided into little ſquares: the whole ſurface is rough, like a file to the touch. This ſpecies uſually lives in holes in ſtones, and in none ſo plentifully as in the large maſſes of the Septaria, or Ludus Helmontii, that lie about many of our ſhores: there is no way for the creature to get out of it's habitation, for the aperture at the ſurface of the ſtone is uſually not larger than the diameter of a gooſe-quill; the creature thruſts out a kind of proboſcis thus far, but no other part of it's body can ever come to the ſurface of the ſtone.

This ſpecies is frequent about our own coaſts, and in moſt parts of Europe: the manner in which it makes it's way into the ſtones, which by the ſmallneſs of the external aperture muſt be done, while it is very little, and the method of it's enlarging the cavity, as it grows, are unknown. The eaſy ſolution has been the ſuppoſing the mat-

ter only clay or mud when the creature got into it, but to have petrified and become ſtone afterwards: the Ludus Helmontii, which is the reſidence of theſe fiſh on our own coaſts, oftener than any other ſpecies of ſtone, ſeemed to favour this opinion, as many have erroneouſly ſuppoſed that ſtone to be petrified clay, before they were informed of this additional appearance in favour of the conjecture: but the hardeſt ſtones are found pierced by them in other places; and, about the coaſts of Italy, pieces of wrought marble are frequently taken up after wrecks, which, if they have lain only a few years in the ſea, are uſually ſpoiled by the holes made in them by theſe creatures. We had lately a ſpecimen of a very hard ſtone preſented to the Royal Society here, in which were living ſhell-fiſh; theſe were determined to be Pholades, but they were, in reality, one of the mytulus kind, deſcribed already in it's place: the general opinion was, that the ſtone had grown about theſe creatures; nor was it without difficulty that I perſuaded that learned body, that the creatures had a power of making their way into hard ſubſtances, while hard, by producing ſome pieces of oak, in which there were ſeveral of them lodged.

Pholas albeſcens valvis majoribus brevibus, ſubovatis.
The white Pholas, with the larger valves ſhort and ſuboval.

This ſpecies is ſingular, on account of the ſmallneſs of the ſhell in proportion to the body of the animal: in moſt of the Pholades, the ſhell is not large enough to ſurround and compleatly incloſe the creature, the ſtony ſides of the cavity it is lodged in anſwering that purpoſe in it's place; but, in this particular kind, the larger valves bear no proportion to the bulk of the body: they are of a whitiſh colour, of a ſuboval figure, ſomewhat hollowed, and longitudinally ſtriated; their ſurface is rough, and their texture tender and delicate; the two ſmaller valves are placed at the back of the others, in a contrary direction; and the fifth or laſt valve is long, ſlender, and convex, and covers the whole hinge: theſe three have a radiated ſurface, but they are ſmoother than the others.

This ſpecies is frequent on our Kentiſh and Suſſex coaſts; I have met with it in great abundance about Shepey iſland, and among the Bognor rocks in Suſſex.

Pholas ſubrubens profunde ſulcatus et aſper.
The reddiſh, deeply furrowed and rough Pholas.

This is four inches long, and about two in diameter: the two principal valves are oblong, largeſt near the middle, and deeply hollowed; they are very thin and delicate; their colour is a pale but elegant red, often variegated with white, and their ſurface is deeply furrowed with parallel, longitudinal, and not very diſtant lines; the ſpaces between riſe up into ridges, and their ſurface is rough; the other three valves are ſmall, and are placed at the back of theſe; two are oval, and one is oblong and very ſlender.

This ſpecies is found in ſtones about the American coaſts, and not unfrequently makes it way into the larger corals, and other ſtony plants, and into ſeveral other ſolid ſubſtances.

Pholas anguſtior tenuiſſimus et aſper.
The narrow, thin, and rough Pholas.

The Weſt Indian File-ſhell.

This is the largeſt known ſpecies of Pholas: it is ſix or ſeven inches long, and, with that length, not more than two inches in diameter: the two large or principal valves, which are all that we uſually meet with, are of a very tender and delicate ſtructure, and are hollowed, and of a beautiful white: they are ſmooth on the inner ſurface, but on the outer they are deeply furrowed, both in a longitudinal and tranſverſe direction, and are rough to the touch in the manner of a file: the three other valves are, as in the former ſpecies, two ſhort and rounded at the extremities, and the other very long, very narrow, and hollowed; this runs along the back, covering the whole hinge.

This ſpecies is brought to us from the American coaſts; it lives in hard ſtones, but is ſeldom met with, except looſe on the ſhores, when it has been diſlodged by ſome accident, as the breaking of the body that incloſed it: for this reaſon a ſingle valve is all that is uſually found, and often that not entire.

The other ſpecies of the Pholas, properly ſo called, are, 1. The ſhort and very rough Pholas, of a greyiſh colour. 2. The ſhort, truncated Pholas, with deep furrows. 3. The long and ſmoother-ſhelled Pholas. Authors have mentioned many other ſpecies under this name, but they are ſhells of other genera, only called ſo, from their being found in ſtones.

SHELL-FISH.

Series the Second.

Thoſe which inhabit the freſh waters.

AMONG the Shell-fiſh already deſcribed as inhabitants of the ſeas, there are many ſpecies that occaſionally make their way up the larger rivers, and ſome that will live in water which is only ſalt while the tides flow: but there are a whole ſeries of others, which are truly and properly natives of the freſh waters only, and which die on being put into ſea-water. Many of theſe are inhabitants of ſtanding waters, as ponds and lakes; others of our brooks and rivers; they are all referable to the genera of ſea Shell-fiſh, and no formal diſtinction of them therefore will be neceſſary here. The ſyſtem of this work would have pleaded for the joining them to the ſea ſpecies, as the place of living makes no regular diſtinction; but the cuſtom of the preſent age, and the intent of rendering this part of natural hiſtory as little confuſed as poſſible, have pleaded for the ſeparating theſe from the ſea-ſhells, and the land-ſhells from theſe, but this only in place; the generical names are continued from the former part of the work, and the ſcientific reader has only to add theſe to the others, as ſo many more ſpecies.

PATELLÆ, LIMPETS.

Patella ſubovata roſtro elevato, incurvato.

The ſuboval Limpet, with an elevated and crooked roſtrum.

THIS is a ſhell of no great beauty: the generality of the freſh-water ones are, indeed, in this reſpect, greatly inferior to theſe of the ſea, but none more ſo than thoſe of this genus: this is a very thin ſhell; the figure is oval, and depreſſed all over, except in the middle, where it riſes into a roſtrum or beak; in other parts it is but very little elevated above the ſurface of the body to which it adheres: the roſtrum is carried to a height equal to two thirds of the diameter of the ſhell, and is ſomewhat crooked and obtuſe at the extremity: the whole ſhell is little more than of the extent of a man's finger-nail, and it's colour is a duſky brown, with a tinge of olive; it is very thin, and eaſily cruſhed.

We have it on ſtones, in many of our brooks in Northamptonſhire.

Patella elevata ſubrotunda umbonata.

The roundiſh, elevated, and umbonated Patella.

This is a ſmaller ſpecies than the former; it rarely exceeds a third of an inch in diameter: it's figure is roundiſh, and it is conſiderably elevated in a gibboſe manner, and, though not roſtrated or beaked as the former, yet is terminated at the top by a round umbo or button, which gives that part a ſingular appearance: it is a very thin and delicate ſhell; it's ſurface is tolerably ſmooth, and it's colour an olive brown, deeper on the outſide than within.

It is found in ſome of the rivers in Leiceſterſhire: I remember to have met with it ſticking to ſmall pebbles, in a little brook that runs behind the houſe of Mr Caldecot, at Calthorp in that county; as alſo about Loughborough, and in ſome other places.

Patella elliptica vertice perforato.
The elliptic Patella, with a perforated top.

This is about a quarter of an inch in diameter, and about half it's diameter in height: it is of an oblong figure, rounded at both ends, and of a duſky brown colour: the ſhell is very thin, and is eaſily cruſhed to pieces; it's verge is even, and it's ſummit is naturally perforated; the aperture is ſmall, but it is of an oblong figure, and ſeems as if formed of two round holes, which had broke their way into one another.

We have this ſpecies about London; the ditches in Tuttle-fields afford it in conſiderable plenty.

The other ſpecies of freſh-water Limpets are, 1. The conic, radiated, yellowiſh-brown Patella. 2. The depreſſed, deep brown Patella. 3. The low Patella, with the umbo near one edge. 4. The little, gibboſe, pale brown Patella.

COCHLEÆ, SNAILS.

Cochlea ſpiralis clavicula parum elevata, ore rotundo.
The ſpiral Snail, with the clavicle a little elevated, and with a round mouth.

THIS is a very pretty ſhell; it's figure is roundiſh, it's diameter three quarters of an inch: it's ſhell is conſiderably firm and ſolid, and is ſmooth on the ſurface; it is formed of about four volutions, and the clavicle in the center is elevated above the reſt of the ſurface: the colour is a greyiſh-white, and the outer or larger volution has a ſtreak of black running all along it in the courſe of the ſpiral, but it loſes itſelf, as it gets into the next volution: the mouth is round, and the lip edged with a rim conſiderably thicker than the reſt of the ſhell, and of a brighter white; this is a rare ſhell.

I have met with it in the lakes upon the hills, in the North of England.

Cochlea ſpiralis clavicula depreſſa, ore etiam depreſſo.
The ſpiral Cochlea, with a depreſſed clavicle, and depreſſed mouth.

St Cuthbert's Horn-ſhell.

This is alſo a pretty ſhell, it is of the ſpiral, flatted kind; it's contour is round, and it's diameter about half an inch: the ſhell is firm and ſolid, and the colour a fine gloſſy brown, with a tinge of the olive: it conſiſts of two or there volutions; the clavicle is depreſſed in the center, and the mouth is, in part, filled up by the next volution of the ſhell: the lip is only a narrow rim or fillet, thicker, and of a paler colour than the reſt of the ſhell.

We have this ſpecies in great plenty in our brooks and rivers; the ditches about London abound with it.

Cochlea elatior clavicula longiore, ore ſemirotundo.
The taller Cochlea, with a long clavicle, and a half-round mouth.

This is one of the moſt elegant and beautiful of the freſh-water Cochleæ: it is about an inch high, and three quarters of an inch in diameter in the body; the mouth is of the half-round kind, being in part filled up by the ſucceeding volution of the ſhell entering it: it is ſurrounded with a thin rim, of a pale yellowiſh colour; the body of the ſhell is rounded and ſmooth; the clavicle has four volutions, and terminates in a point: the ground colour of the whole ſhell is a duſky yellow, and this is elegantly variegated with an olive brown, diſpoſed in irregular ſpots and clouds.

We have this ſpecies in the river Nen, near Peterborough, and in ſome other of our deep and not very rapid waters, but it is not common; the colour is ſometimes ſimply a pale yellow, but this is an accidental variety.

Cochlea corpore ſubovato, clavicula elata obtuſa variegata.
The variegated, oval-bodied Cochlea, with an elate, obtuſe clavicle.

This is alſo an elegant ſpecies: it is about three quarters of an inch in height, and near half an inch in diameter: the body of the ſhell is large, inflated, as it were, and of a figure approaching to oval, but pointed at the extremity of the mouth: the clavicle has three volutions; they are large and rounded, and the ſummit is obtuſe; the ground colour of the ſhell is a greyiſh-white, and it is variegated with regular faſciæ or zones of a deep brown.

We have this in moſt of our large rivers, often in ditches.

Cochlea fuſca ore ampliore, clavicula lata acuta.
The large-mouthed, brown Cochlea, with an elate, acute clavicle.

This is about half an inch high, and very little leſs in diameter: the body is of an oval figure, and the clavicle is long and pointed at the ſummit; the colour is a duſky brown; the ſhell is not ſo thick as many of the others, and the mouth is remarkably large, and edged by a thin rim, by way of lip.

We have this very frequent in our brooks and ditches.

Cochlea clavicula depreſſa ore anguſto labiato.
The narrow and labiated-mouthed Cochlea, with a depreſſed clavicle.

The grey, freſh-water Nerite.

This is a very pretty ſhell: it is of the number of thoſe Cochleæ diſtinguiſhed by the name of Nerites, and is not the leaſt elegant of that kind; it is about a third of an inch in length, and near as much in diameter: the body is of a form approaching to oval; the clavicle is depreſſed, and is ſituated near the ſmaller extremity on one ſide: the mouth is narrow, and has a little lip on each ſide; the general colour is a pale grey, but it is variegated with a deeper iron grey, approaching to black, in little irregular ſpots; and the whole ſurface is lightly furrowed.

We have it in ſome of our large rivers, particularly in the North of England, but it is not common.

Cochlea ore anguſto labiato cancellata.
The cancellated Cochlea, with an oblong, narrow mouth.

The cancellated, freſh-water Nerite.

This is alſo a very beautiful ſpecies; it is about half an inch in length, and nearly as much in diameter at the larger extremity: it's figure approaches to oval, and it's clavicle is ſhort, depreſſed, and has but about two volutions: the mouth is narrow, and has a lip on each ſide, but is not dentated either way: the whole ſurface of the ſhell is furrowed with longitudinal lines, and with others croſſing them, ſo as to form a cancellated or kind of lettice-worked ſurface: the ground colour is a pale grey, almoſt white, but it is irregularly variegated with blackiſh, ſometimes diſpoſed in large clouds, ſometimes in the form of ſmall ſpots.

We meet with this ſpecies in ſome of our ſwift and clear brooks, and ſmaller rivers; I have frequently ſeen it in the trout rivers about Uxbridge.

Cochlea ſubrubens ore anguſto labiato.
The reddiſh Cochlea, with a narrow, labiated mouth.

The red, freſh-water Nerite.

This is about half an inch in length, and is more than a third of an inch in diameter: the colour is throughout a pale, but not bright, red; there is a duſkineſs in it, which brings it nearer to the colour of a very pale red brick, than to any of the diluted purple or bloſſom colours: the ſubſtance of the ſhell is more firm, and is conſiderably thicker than in moſt of the others, and the ſurface is nearly ſmooth: there run two or three lines, according to the courſe of the volution of the ſhell; but they are ſo faint, that

that they are ſeldom diſtinguiſhed; the mouth is narrow, and the lips are of a paler red than the reſt of the ſhell, and are ſmooth: the clavicle is ſhort, and turns only about twice near one edge, at the ſmaller end of the ſhell.

We have it in the rivers in Northamptonſhire in abundance.

Cochlea conica, ore depreſſo, griſea.
The grey, conic Cochlea, with a depreſſed mouth.

The grey, freſh-water Trochus.

This is a ſmall ſpecies, but is exactly like the large conic Cochleæ, or, as they are uſually called, Trochi, in figure; it is of a tolerably regular conic ſhape, and has four volutions; it's height is about a third of an inch, it's diameter nearly as much at the baſe, and it terminates in an obtuſe, little umbo: it's colour is a pale grey, often approaching to whitiſh; it's ſubſtance very thin and tender: it's mouth is moderately large, and of a depreſſed form, or in great part filled up with the ſucceeding volution of the ſhell.

We have it in ſeveral of our large rivers; I have received very fair ſpecimens of it from the Avon, and have met with it in the Thames about Richmond.

Cochlea conica ore depreſſo coſtata et variegata.
The coſtated and variegated conic Cochlea, with a depreſſed mouth.

This is a ſmall, but an elegant, ſhell; it's height is, at the utmoſt, not more than half an inch; it's diameter at the baſe is more than a third of an inch; it's mouth not ſo large as in the former ſpecies, and it's ſummit pointed: it is of a very regularly conic figure, and conſiſts of five volutions; it is of a ſomewhat firmer ſubſtance than the former ſpecies, but is ſtill eaſily cruſhed: it has a riſing in form of a rib, of a rounded figure in the middle of the firſt or loweſt volution, which follows the whole turn of the ſhell, but grows fainter, as it approaches nearer the top: the ground colour is a faint grey; and the variegations, which are diſpoſed in the form of clouds and lines of an irregular form, are black.

We have this ſpecies in plenty in the North, in our deep rivers; elſewhere I have not met with it: it often is found on the ſtalks of the water-lilies.

Cochlea conica fuſca.
The brown, conic Cochlea.

The brown, freſh-water Trochus.

This is a very ſmall ſhell, and has no great beauty: it's height is hardly a quarter of an inch; it's diameter at the baſe is not more than a ſixth of an inch, and it's colour is a pale brown, with ſome faint caſt of yellowiſh, and without any variegations: the ſhell conſiſts of four volutions, and theſe are rounded and ſmooth on the ſurface; the top is obtuſe, or terminated by a kind of umbo: the ſubſtance is extreamly thin and tender, ſo that the leaſt touch deſtroys it.

It is frequent in our ditches, where no other ſpecies of the conic kind is found: we have it in abundance in the ponds and ditches in Tothil-fields, and about Batterſea and Wandſor.

The other of the freſh-water Cochleæ are numerous.

1. Of the depreſſed kind we have, 1. The brown, ſtriated Cochlea, with the clavicle a little raiſed. 2. The elegant, brown, and yellow Cochlea. 3. The larger, pale, olive-coloured, depreſſed Cochlea, with a larger mouth. 4. The larger, grey and black, depreſſed Cochlea, with a white, thin lip. 5. The leſſer, firm, greeniſh, depreſſed Cochlea. 6. The leſſer, thick, yellowiſh, depreſſed Cochlea, with few volutions. 7. The leſſer, deep brown, depreſſed Cochlea, with a great mouth.

2. Of the ventricoſe or bellied kinds, with a half-round mouth and exerted clavicle, there are, 1. The large, brown and yellow, elegantly variegated Cochlea. 2. The little, thick, deep brown Cochlea, with a large mouth. 3. The thin, ſmall, olive-coloured Cochlea. 4. The greeniſh, oval-bodied Cochlea. 5. The elegant, pearly white Cochlea. 6. The variegated, brown and grey Cochlea. 7. The very ſmall, grey Cochlea, lineated with black.

3. Of the conic Cochleæ, called Trochi, beſide the already deſcribed ſpecies, there are, 1. The large, plane, brown, ſharp-pointed Cochlea. 2. The large grey, and

black, conic Cochlea. 3. The leſſer, olive-coloured Cochlea, with tranſverſe or oblique lines of brown. 4. The little, green and brown, obtuſe-pointed Cochlea.

TURBINES, SCREW-SHELLS.

Turbo gracilior lævis albeſcens.
The ſmooth, ſlender, whitiſh Turbo.

THIS is a very elegant little ſhell; it's length is more than an inch, and it's thickneſs at the bottom not more than that of a gooſe-quill: it grows regularly taper from this part to the ſummit, where it terminates in a ſharp point: it conſiſts of about fifteen volutions, which are flatted on the ſurface, and have no variegations, only the line that marks their ſeparation from one another is of a pale brown; the ſubſtance of the ſhell is very tender, and it's colour a pale whitiſh-grey; it's mouth is ſmall, and of the depreſſed kind.

I met with many thouſands of this ſpecies together, about a cluſter of flags in one of the lakes, on one of the hills in Lancaſhire, which of them I do not diſtinctly remember. I have ſince received ſpecimens of it from France, where it abounds in the Seine, and ſome other rivers: the French ſpecimens are whiter than ours, but no way elſe different.

Turbo ore oblongo, margine volutionum denticulato.
The long-mouthed Turbo, with the edge of the volutions denticulated.

This is a very elegant ſpecies; it's length is about three quarters of an inch; it's diameter at the baſe is about a third of an inch, and it's whole ſtructure formed of about thirteen volutions: the mouth is oblong, narrow, and edged with a furrowed and irregular lip; the volutions are flat, and their ſurface is ſmooth, but the upper edge of each, or the continued edge of the whole, is deeply and elegantly denticulated: the colour of the whole ſhell is a very pale grey, with ſomewhat of a pearly tinge in it, but it is rarely quite pure on the ſurface.

We have it in the river Nen near Peterborough, and in ſome other of our large rivers, and ſometimes in ponds.

Turbo margine volutionum bullato.
The Turbo, with the edge of the volutions bullated.

This is a very elegant ſpecies: it's height is an inch; it's diameter at the baſe at leaſt a third of an inch, and it's mouth of an irregularly oblong figure: it's ſubſtance is very thin and tender, and it's colour a dead whitiſh; it is compoſed of about ſeven volutions; they are broad, flat, and perfectly ſmooth on the ſurface; but at the verge, where the other ſpecies has it's denticulations, this has every-where a ſeries of little rounded protuberances or bullæ, which give it an extreamly elegant figure.

It is a very rare ſpecies; I have met with it in ſome of the rivers in Leiceſterſhire and Yorkſhire, but not elſewhere: it is frequent in the ditches in Holland, from whence I have received very beautiful ſpecimens.

Turbo albeſcens volutionibus tumidis glabris.
The whitiſh Turbo, with ſmooth, tumid volutions.

This is an inch and a half long, and of the thickneſs of a ſwan's quill at the baſe; the mouth is of a roundiſh figure, and the ſummit obtuſe: the ſhell conſiſts of about fourteen volutions; they are all, except the four laſt, very diſtinct, and are rounded or bellied, and conſequently have the line that ſeparates them much ſunk in below their ſurface: the whole is of a tender ſtructure, and a whitiſh colour.

I met with it laſt ſummer in Whitleſea-meer in Cambridgeſhire, and have not ſeen it elſewhere.

Turbo

Turbo tenuiſſimus volutionibus vix elevatis.
The very ſlender Turbo, with the volutions ſcarce elevated.

This is an inch and a half in length, and is the ſlendereſt, in proportion to it's length, of all the ſhells of this genus: it's mouth is oblong and narrow, and it's ſummit finely pointed: the ſhell conſiſts of ten or twelve volutions, but they are ſo little elevated, that it rather appears ſurrounded with a ſpiral line, than really ſeparated into ſo many portions: the whole is very thin, and of a tender ſtructure; the colour is a very pale brown, often whitiſh, and the line between the volutions is of a deeper brown.

We have this in ſome of our large ponds, but it is far from common.

The other ſpecies of freſh-water Turbines are, 1. The tall, ſlender, variegated Turbo. 2. The ſhort, thick, whitiſh Turbo, with indented volutions. 3. The little, yellowiſh, round-mouthed Turbo. 4. The little, brown Turbo, with a ſmall, detached, round mouth. 5. The larger, round-mouthed, brown Turbo.

BUCCINA, TRUMPET-SHELLS.

Buccinum tenuiſſimum fuſcum ore magno.
The very thin, brown Buccinum, with a large mouth.

THE extream thinneſs of this ſhell, in proportion to it's ſize, readily diſtinguiſhes it, without any farther characteriſtic: it is an inch and a quarter long, half an inch in diameter in the body, and not thicker in it's ſubſtance than a piece of the fineſt paper: the mouth is very large and oval; the body of the ſhell is oblong and tumid, and the clavicle has about four volutions: the colour is a brown, with a tinge of greeniſh or olive.

It is very frequent in our ponds and ditches.

Buccinum ſubrubens anguſtius ore magno.
The ſlenderer, large-mouthed, reddiſh Buccinum.

This is an inch long, and about a third of an inch in diameter: the body of the ſhell is of an elliptic figure, and the clavicle has four volutions, and is terminated by a little button: the mouth is very large and oblong; the ſhell is of a thin and delicate ſtructure, eaſily broken, and it's ſurface is every-where ſmooth; it's colour is reddiſh, with an admixture of white.

We have it in ſome of our large rivers, where the water is deep, and the current but ſlow.

Buccinum ſtriatum ore magno ovato.
The ſtriated Buccinum, with a great, oval mouth.

This is a very elegant ſpecies; it's length is about three quarters of an inch; it's breadth is about a third of an inch, and the ſubſtance of the ſhell extreamly thin: the body is large, in proportion to the reſt; it makes up, in a manner, the whole ſhell: the mouth is very large and oval; the clavicle is ſmall, and has only three volutions; it terminates in a ſharp point: the colour of the ſhell is a very pale brown, and it's ſurface is not ſmooth, as in the preceding ſpecies, but is very beautifully furrowed in a longitudinal direction, both on the body and clavicle, but much more ſtrongly on the body than elſewhere.

We have it in ſome of our large ponds, but not frequent; it is more common in the Weſt of England than elſewhere.

Buccinum anguſtius clavicula longiore, ore ovato minore.
The narrow Buccinum, with a longer clavicle, and a ſmall oval mouth.

This is about half an inch in length, and is not ſo much as a third of it's length in diameter: the body is ſmall and rounded; the clavicle is long, and very elegantly formed

formed of ſix volutions: the mouth is of an oval figure, but it is little, and is edged with a pale, narrow lip: the whole ſurface of the ſhell is ſmooth, and the colour a pale brown, with a tinge of olive; the volutions of the clavicle are tumid or rounded, and are all very diſtinct and beautiful.

We have this in great plenty in Hackney river, and in ſeveral other of the ſhallow and ſwift rivers in moſt parts of England.

Buccinum breve ventricoſum ore parvo rotundo.
The ſhort, tumid Buccinum, with a very ſmall, round mouth.

This is about half an inch in length, and is as much in diameter; it's figure is very ſingular, and wholly unlike that of all the other ſpecies: the body of the ſhell is leſs diſtinct from the clavicle, than in the generality of this genus; and the whole ſhell appears, as if it had been depreſſed or cruſhed together from the ſummit to the mouth; the body is of once and a half it's length in diameter; and the mouth, which is ſmall, and perfectly and regularly round, is connected to it, as it were, by a neck: the clavicle has only three volutions, and thoſe ſhort, but very diſtinct, and it terminates obtuſely; the ſubſtance of the ſhell is thin and tender, and the colour a pale brown.

I firſt met with it in the little river that runs under the town of Mount Sorrel in Leiceſterſhire; it is not common with us.

Buccinum anguſtius margine volutionum dentato.
The narrow Buccinum, with the edges of the volutions dentated.

This is an elegant ſpecies; the length is an inch and a half, and the diameter is barely half an inch; the ſubſtance of the ſhell is moderately thick, and it's colour a reddiſh-brown: the body is not large in proportion to the reſt of the ſhell, and it's figure is oval; the mouth is large and oblong; the clavicle is very large; it conſiſts of five volutions, all broad, flat, and diſtinct, and the edge all the way elegantly denticulated; the ſummit is obtuſe: it is a rare ſpecies.

I found it in ſeveral of the rivers of Warwickſhire, but not abundantly in any of them, and in very few others.

Buccinum heteroſtrophum ore ovato.
The oval-mouthed, heteroſtrophous Buccinum.

This is a very ſingular ſpecies; the volutions running in a contrary direction to thoſe of the others, and the mouth conſequently ſtanding the wrong way: the ſhell is half an inch long, and nearly as much in diameter, and is ſo extreamly thin and tender, that it is not eaſy to touch it without breaking it: it's colour is a pale brown, with a tinge of yellow; the body is very large, and of an oval form; the mouth alſo is large, but it is not nearly of the ſize that ſome of the firſt ſpecies have it, it's opening not reaching the whole length of the body; the clavicle has only three volutions, and thoſe ſmall but diſtinct, and it's ſummit pointed.

We have it in ſome of the ſhallow ponds and ditches about Tothil-fields, and in our fiſhponds in many places.

The other ſpecies of freſh-water Buccina are, 1. The little, thicker, brown Buccinum. 2. The larger, thicker, deep brown Buccinum, with a ſmall mouth. 3. The large, brown Buccinum, with a ſhort clavicle. 4. The ſmaller, greyiſh Buccinum, with a pointed clavicle. 5. The larger and thicker, ſmall-mouthed Buccinum.

DOLIA, GLOBOSE SHELLS.

Dolium fuſcum ore maximo expanſo.
The brown Dolium, with a very large, expanded mouth.

THIS is about three quarters of an inch long, and half an inch in diameter: the body of the ſhell is tumid, and, as it were, inflated, and the clavicle is very ſhort and inconſiderable; it conſiſts of four very minute and indiſtinct volutions, and is pointed at the extremity: the mouth is extreamly large, and the lip expanded a great

a great way: the whole ſurface of the ſhell is ſmooth, and it's ſubſtance extreamly thin; it's colour is a duſky brown on the outſide, and a paler whitiſh brown within.

We meet with it in the fen-ditches in Lincolnſhire in vaſt abundance, and ſometimes in the muddy waters about London.

Dolium ſubovatum ore longiore et anguſtiore.
The oval Dolium, with a longer and narrower mouth.

This is near an inch in length, and two thirds of an inch in diameter; it's ſubſtance is extreamly thin, and it's colour a duſky brown: the body approaches to an oval figure, but it is ſomewhat bent in toward the extremity: the clavicle is very ſhort and inconſiderable; the mouth is large, but leſs ſo than in the former ſpecies; it is indeed as long as in that, but the lip is not expanded in that manner, ſo that it is much narrower, and approaches to an oval figure

We have this in ſome of the ditches about London in very great abundance.

Dolium ſubrotundum flaveſcens ore ovato.
The yellow, round Dolium, with an oval mouth.

This is about half an inch in length, and as much in diameter; the ſubſtance of the ſhell is extreamly thin and delicate, and it's colour a pale yellow: the body is of a roundiſh figure, and the mouth is large and oval; the clavicle is very ſmall.

We have this in the ponds in Northamptonſhire very common; I have alſo, ſome years, ſeen many of them in the ditches in Tothil-fields.

Dolium ſubovatum albidum ore amplo.
The white, oval Dolium, with a large mouth.

This is about three quarters of an inch long, and half an inch diameter: the body is of a form approaching to oval, but indented toward the verge of the mouth; the clavicle is very inconſiderable, but it is ſharply pointed at the extremity: the mouth is large and roundiſh, but with ſome approach to the oval: the colour of the whole ſhell is a beautiful white.

It is frequent in ſome of our ſhallow rivers, where there are many weeds.

The other ſpecies of freſh-water Dolia are, 1. The ſhort, round-mouthed, olive-coloured Dolium. 2. The oval, yellowiſh, thicker Dolium, with a very ſmall clavicle. 3. The oblong, wide-mouthed, reddiſh Dolium, with a ſomewhat longer clavicle. 4. The ſhort and depreſſed, oval-mouthed Dolium. 5. The very ſmall, blackiſh Dolium.

AMMONIÆ, CORNU AMMONIS SHELLS.

THOUGH we have not, among the almoſt infinite variety of the Sea-ſhells, any one of the figure and ſtructure of the foſſile Cornu Ammonis, we have ſeveral ſmall ſhells of the freſh-water kind, which in all reſpects agree with them, eſpecially with the more common kinds.

Ammonia variegata ore majore.
The larger-mouthed, variegated Ammonia.

This is one of the moſt elegant among the whole ſeries of freſh-water ſhells: it is of a rounded, depreſſed figure; it's diameter is about an inch, and it's thickneſs toward the mouth a third of an inch: it conſiſts of about four volutions, the part neareſt the mouth being largeſt, and the body growing gradually ſmaller, all the way of the ſpiral, afterwards to the center, where it forms a little umbo or button: the mouth is ſomewhat larger than a plain ſegment of the ſhell would form, there being a little elevated lip all round it: the ſurface is obſcurely undulated in a tranſverſe direction; the colour is a pale grey, variegated with brown, in very irregular ſpots and lines: when the ſhell is broke, it's cavity is found to be not ſimple and uniform, but divided into a number of cells, in the manner of that of the Nautili, and of the foſſile Cor-

nua Ammonis, by tranſverſe plates or partitions, with a ſiphuncle or little pipe running through each: it is a rare ſhell.

I remember to have ſeen it, ſome years ſince, in the river near Wiſbech, and alſo in ſome parts of Leiceſterſhire; but, in the latter place, it was ſmaller and leſs variegated.

Ammonia fuſca glabra ore depreſſo.
The brown, ſmooth Ammonia, with a depreſſed mouth.

This is about three quarters of an inch in diameter, and in the thickeſt part is of the bigneſs of a ſmall gooſe-quill; it conſiſts of about four volutions: the ſhell is thin and eaſily cruſhed; the mouth is of a ſomewhat depreſſed form, the ſecond volution of the ſpiral entering a little way into it: the colour is a beautiful gloſſy brown, without any variegations, except that there run a kind of obſcure lines, ſomewhat darker than the reſt, marking the places of the diviſions on the inſide of the ſhell: theſe are formed of a thin, whitiſh, ſhelly matter, and ſtand at about a line diſtance from one another, dividing the cavity of the ſhell in the manner of that of the nautilus.

I have met with this in ſome large ponds in Derbyſhire, and not elſewhere.

Ammonia ſubflaveſcens minor glabra.
The ſmooth, little, yellowiſh Ammonia.

This is about a third of an inch in diameter, and in the largeſt part is not thicker than a crow-quill: it conſiſts of about three volutions, terminating with a little umbo in the center: the whole ſurface of the ſhell is perfectly ſmooth and even, and it's colour is a bright brown, with a conſiderable tinge of yellow in it.

We have this in ſome of our fiſh-ponds about London.

Ammonia pallida coſtata.
The pale, ribbed Ammonia.

This is about half an inch in diameter, and it's largeſt end is not much thicker than a crow-quill: the ſhell is of a tender ſubſtance, and it's colour very pale; it conſiſts of three or four volutions, and is all the way tranſverſely ribbed; the ribs are low and rounded, and mark the places where the plates are ſituated within, which form the diviſions between the ſeveral cells.

We have this, in great abundance, in the fen-ditches in Lincolnſhire.

The other ſpecies of the Ammonia are, 1. The common, little brown Ammonia. 2. The common, larger brown Ammonia, with a rim round the mouth. 3. The larger, white Ammonia. 4. The large, yellow Ammonia.

FRESH-WATER SHELLS.

Diviſion the Second.

BIVALVES.

Theſe are much fewer in number than the ſimple, or, as they are uſually called, Univalve ſhells; and more of the genera of the ſea kinds are wholly unknown among them.

CHAMÆ.

Chama depreſſa lævis albeſcens.
The white, ſmooth, depreſſed Chama.

THIS is about three quarters of an inch in breadth, and nearly of the ſame meaſure from the hinge to the oppoſite verge: the valves are both equally hollowed, but it is not much; they are very thin, when joined, about the edge, and the gibboſity

gibboſity toward the cardo does not give them any very great depth: their ſurface is perfectly ſmooth, and the colour is a duſky whitiſh, without any variegations.

We have this ſpecies in ſome of our large rivers, but it is not common: it is abundant in the ditches of Holland.

Chama gibboſior albida variegata.
The gibboſe, whitiſh, variegated Chama.

This is about half an inch in breadth, and is nearly as much from the hinge to the oppoſite verge: the ſhells are equally and conſiderably deep; they are ſlightly faſciated or marked with obſcure, circular lines, at ſmall diſtances; the ground colour of the ſhell is a duſky whitiſh, but it is variegated with olive-coloured ſpots.

We have it in our rivers of Northamptonſhire and Warwickſhire in great abundance; it is frequent alſo in the rivers of Germany, but there it is more beautiful, being frequently variegated with red and green; but the ſpecies is ſtill the ſame.

Chama rotundior faſciata ſubrubens.
The reddiſh, round faſciated Chama.

This is about an inch and a half in diameter, and as much from the hinge to the oppoſite verge: the ſhells are equally hollowed, but not greatly ſo; they are lightly faſciated, and are of a pale browniſh-red on the outſide, and of a very elegant, pearly hue within.

We have this in ſome of our large fiſh-ponds, but it is not common with us: I have had a great many ſpecimens of it from France, ſome of them of this reddiſh colour, but moſt of a pale brown, with little or no red in it.

Chama ſubovata ſubcærulea.
The bluiſh, oval Chama.

This is about half an inch in length from the hinge to the oppoſite verge, and is ſomewhat leſs than that from ſide to ſide, which is not the uſual caſe with the Chamæ: it is broad and rounded at the verge, and at the top it runs up ſmaller, but terminates obtuſely; it is elegantly and finely ſtriated in a longitudinal direction; the ſtriæ are very fine and cloſe; the colour is a pale bluiſh-grey.

We have this in ſome of our rivers, but it is not frequent with us.

The other ſpecies of freſh-water Chamæ are, 1. The larger, flat, and ſmooth Chama. 2. The ſmaller, flat, and obſcurely faſciated, yellowiſh Chama. 3. The ſmaller, ſtriated, reddiſh, hollowed Chama. 4. The ſmall, white, faſciated, gibboſe Chama. 5. The great, brown, rough Chama, of a pearly white within. 6. The great, olive-coloured, depreſſed Chama, with a more even ſurface. 7. The larger, olive-coloured, flat Chama.

MYTULI, MUSCLES.

Mytulus tenuiſſimus vireſcens.
The extreamly thin, greeniſh Mytulus.

The green river Muſcle.

THIS is an extreamly elegant ſhell: it is near an inch from corner to corner, and is about three quarters of an inch from the hinge to the oppoſite verge of the ſhell; it is conſiderably gibboſe and deep, and approaches to the figure of the tellina of authors: the whole ſurface is lightly faſciated; the colour is a pale, elegant green, and the ſhell is as thin as the fineſt paper.

I met with ſeveral of this ſpecies in the lakes on the mountains in Yorkſhire, and other parts of the North; we have it from the rivers of France and Germany alſo, but it is ſo tender and delicate, that it is uſually broke or injured in the carriage; it is, indeed, hardly poſſible it ſhould eſcape accidents.

Mytulus

Mytulus faſciatus albeſcens variegatus.
The whitiſh, variegated, faſciated Mytulus.

This ſpecies alſo approaches to the figure of the tellina of authors: it is about an inch in meaſure from the extremities of the ſides, but is not much more than half an inch, from the hinge to the oppoſite verge of the ſhell: it's colour is whitiſh, variegated with brown; the valves are both conſiderably gibboſe, and the ſurface is pretty deeply faſciated.

We have this in moſt of our large rivers.

Mytulus angulatus anguſtior fuſcus.
The narrow, brown, angulated Mytulus.

This is near an inch long, and not half an inch in breadth; the valves are both very deep, ſo that it's thickneſs is nearly equal to it's breadth: they are not even on the ſurface, but are irregularly angulated, and raiſed into two or three ridges; the ſubſtance of the ſhell is tolerably thick and ſtrong; the colour a pale brown, with a tinge of the olive.

We have it in ſome of our ponds, but it is not common.

The other ſpecies of the freſh-water Mytulus are, 1. The little, purpliſh, thin Mytulus. 2. The white, oblong, ſmooth Mytulus. 3. The brown, oblong, ſmooth Mytulus. 4. The broad and flat, ſlightly faſciated Mytulus. 5. The pale red, thin, ſtriated Mytulus. 6. The larger, duſky greyiſh Mytulus. 7. The large, brown, thick Mytulus. 8. The great, broad, ſmooth, brown Mytulus, pearly within, called the Horſe-muſcle, or the Pond-muſcle. 9. The greater, oblong, brown Mytulus, pearly within. 10. The large, yellowiſh, ſmooth Mytulus, pearly within. Theſe three laſt are common in our ponds, and are by many indiſcriminately called the Horſe-muſcle.

CARDIÆ, HEART-SHELLS.

Cardia profunde ſtriata triangularis.
The triangular, deeply ſtriated Cardia.

THIS ſpecies has ſome reſemblance to the common cockle eaten at our tables, but more to ſome of the foſſile Conchæ Anomiæ: it is about half an inch broad, and nearly as much in length, from the hinge to the extream verge; it is broad at the bottom, whence it grows ſmaller to the top where the hinge is, and, though rounded at the verge, it by this means approaches to a triangular figure: the whole ſurface is deeply ſtriated or furrowed; the ridges between the furrows are narrow and rounded, and the colour is a pale browniſh, almoſt white, with a faint tinge of reddiſh in it.

We have this in conſiderable abundance in ſome of our large rivers.

Cardia ſubgloboſa livida.
The bluiſh, rounded Cardia.

This is an elegant ſhell, and, when viewed ſideways, has as much the appearance of the figure of a heart at cards, as any of the marine kinds: it is about an inch in length, and is as much in diameter from ſide to ſide, and but little leſs in thickneſs: the whole ſurface is elegantly, but not very deeply, ſtriated, and the colour is a livid or duſky bluiſh.

I met with a few ſpecimens of this in the river Nen, near Water Newton in Northamptonſhire; elſewhere I have not ſeen it.

Cardia faſciata ſubrubens.
The reddiſh, faſciated Cardia.

This is alſo an elegant ſhell for one of the freſh-water kind; it is about half an nch in length, from the hinge to the oppoſite verge, and is nearly as much in diameter:

meter: both the valves are deeply hollowed, and, when cloſed and viewed ſideways, have much the appearance of the figure of a heart at cards: the ſubſtance of the ſhell is tolerably firm and ſolid, it is lightly faſciated, and the intermediate ſurface is ſmooth, and has a fine poliſh; the colour is white, with a tinge of red.

We have this ſpecies in ſome of our large rivers, but it is not common.

The other ſpecies of the freſh-water Cardiæ are, 1. The larger, ſmooth, brown Cardia. 2. The larger, pale red, ſtriated Cardia. 3. The little furrowed, whitiſh, round Cardia. 4. The little, faſciated, olive-coloured Cardia. 5. The leſſer, flat, furrowed Cardia, called the freſh-water Scallop. 6. The larger, flat, furrowed Cardia.

Theſe are all the known ſpecies of the bivalve freſh-water ſhells: as to the ſeveral genera of the multivalves, we have not yet met with a ſingle ſpecies of any one of them, that is an inhabitant of any water but ſuch as is ſalt.

ANIMALS living in SHELLS.

Series the Third.

Thoſe which live at land.

COCHLEÆ TERRESTRES, LAND-SNAILS.

Cochlea ſubrotunda, fuſca, et nebulata, clavicula elatiore.
The round-bodied, brown, clouded Snail, with an elated clavicle.

The Pomatia.

THIS is the largeſt of the ſnail kind known among us: it is more than an inch in height, and as much in diameter; the ſhell is conſiderably firm and ſtrong, and the colour a deep duſky brown, variegated with clouded ſpots and oblique ſtreaks of a paler brown; and ſometimes, but not always, there runs a ſpiral line of the ſame brown, following the volutions of the ſhell: the body of the ſhell is rounded, and the mouth nearly round, but a part of it filled up by the ſucceeding volution of the ſhell: the clavicle is elated, and has four volutions.

We have this ſpecies in ſome parts of Surry, but it is not frequent: it is not properly a native of England, but of the warmer parts of Europe; there are people who remember the time of a large quantity of them being brought over from France, for the uſe of a perſon of quality in that part of the kingdom, to whom they were preſcribed as a medicine: they came over alive, and were turned looſe in the garden, and from that parcel all the country about has been furniſhed with them; and many other places from thence.

Cochlea ſubrotunda, undulata, et faſciata, clavicula obtuſiore.
The roundiſh, undulated, and faſciated Snail, with a more obtuſe clavicle.

The great Garden-ſnail.

This is the largeſt of our ordinary ſnails, but it is conſiderably ſmaller than the former: it is about three quarters of an inch in height, and as much in diameter; the body of the ſhell is rounded; the mouth is large, and approaches to a round figure, but is in part filled up by the ſucceeding volution of the ſhell; the clavicle has four turns, and is obtuſe at the extremity: the colour of the ſhell is a duſky brown; there runs a broad ſimple faſcia or belt along the body, following the ſpiral turn of the ſhell, and ſometimes there are two other faint ones: above and below this middle faſcia, there run ſeveral broad and ſhort oblique lines or clouds of a different brown.

It is extreamly common in our gardens, and under hedges.

Cochlea ſubrotunda flaveſcens fuſco variegata.
The yellow, round-bodied Snail, variegated with brown.

This alſo is a large ſpecies, though inferior in that reſpect to the Pomatia: it is about three quarters of an inch in height, and is fully as much in diameter: the body

is rounded, as in the two former ſpecies, but the mouth is more depreſſed; the clavicle has four volutions, and is terminated by a little round button: the ſhell is conſiderably thick and firm, and it's ground colour is a duſky yellowiſh: it has a ſingle broad faſcia, of a deep brown, following the turn of the ſhell, and placed juſt in the middle of the body; it has alſo ſome other faint variegations of brown, and the mouth is ſurrounded with a thick rim of white.

We have this under ſome of our hedges in the Weſt of England, but it is not common.

Beſides theſe three ſpecies, we have, of the common large Snail kind, 1. The great, brown and white Snail, with a depreſſed clavicle. 2. The great, brown Snail, with ſcarce any variegations, with an elated clavicle; and, 3. The large, bluiſh Snail.

2. Of the common ſmaller Snails we have a very conſiderable variety, and moſt of them very elegant, even the plain-coloured ones not being without conſiderable beauty.

Cochlea lutea labio pallido.
The plain, yellow Snail, with a yellow lip.

This is barely half an inch in height, and is about as much in diameter: the body is not ſo diſtinct from the clavicle as in the larger ſpecies, but the whole ſhell may be ſaid to have five volutions or turns: the form is leſs elevated than that of the larger kind, but the clavicle riſes from the reſt of the ſhell, and terminates obtuſely; the mouth is large, and approaches to round, but it is depreſſed, and in part filled up by the ſucceeding volutions of the ſhell: the colour of the whole is a plain, but bright, yellow, with no variegation, only the lip or verge of the mouth is of a paler hue than the reſt, and ſometimes whitiſh.

We have this every-where in our gardens and hedges.

Cochlea flava faſciis ſingularibus.
The yellow Cochlea, with ſingle faſciæ.

This is a very beautiful ſhell; it is nearly half an inch in diameter, and almoſt as much in height: it conſiſts of five volutions, and it's mouth is of a depreſſed figure, and is ſurrounded by a whitiſh rim or lip: the colour of the ſhell is yellow, but there runs a ſingle broad faſcia or belt of a deep, purpliſh-brown colour, in the center of every volution following the whole ſpiral turn of the ſhell.

We have this ſpecies as frequent as the former, in our gardens and hedges.

Cochlea flava faſciis triplicibus.
The yellow Cochlea, with triple faſciæ.

This is alſo a beautiful ſpecies; it is near half an inch in diameter, and as much in height: the mouth is roundiſh but depreſſed, and the whole ſhell is compoſed of five volutions, the clavicle terminating in an obtuſe umbo or button: the ground colour is yellow, but there runs a triple faſcia, of a purpliſh-brown, round the whole volution of the ſhell, ſo that there appear in the center of each turn three lines, the middle one broad, and the other two narrower.

This is frequent with us in gardens and hedges.

Cochlea flava faſciis quaternatis.
The yellow Cochlea, with quaternate zones.

This is about half an inch in diameter, and is nearly as much in height: the whole ſhell conſiſts of five volutions, and the top or extremity of the clavicle is obtuſe, and formed into a little umbo: the mouth is large, rounded, but depreſſed, and edged with a rounded, thin rim, of a whitiſh colour: the general colour of the ſhell is yellow, but there run on each volution four narrow lines of a purpliſh colour; they follow the whole turn of the ſhell, and ſtand in the midſt of all the ſpiral rounds.

This is frequent with the former ſpecies in our fields and gardens.

Cochlea

Cochlea flaveſcens faſciis quinatis.
The yellowiſh Cochlea, with quinate faſciæ.

This is half an inch in diameter, and nearly as much in height: the ſhell is thinner than in moſt of the other ſpecies, and is eaſily burſt or cruſhed to pieces: the clavicle terminates in a little, whitiſh umbo; and the mouth, which is large and depreſſed, is ſurrounded with a thin rim or lip of a whitiſh hue: the colour of the ſhell is a pale whitiſh-yellow, but in the center of the body there run five narrow faſciæ or zones: they are continued, though in a leſs determinate manner, to the top of the ſhell, running along the center of each turn.

This ſpecies is as frequent as the others, in our fields and gardens.

The other ſpecies of the ſmaller Snails are, 1. The plain, white Cochlea. 2. The white Cochlea, with a ſingle zone of a purpliſh-brown. 3. The white Cochlea, with ternate faſciæ or three zones on each volution. 4. The white Cochlea, with quaternate zones. 5. The white Cochlea, with quinate zones, or five ſtreaks on each volution. 6. The plane, reddiſh Cochlea. 7. The reddiſh Cochlea, with a ſingle faſcia. 8. The reddiſh Cochlea, with three faſciæ. 9. The reddiſh Cochlea, with four faſciæ. 10. The reddiſh Cochlea, with five faſciæ. 11. The pale brown Cochlea, with a thicker ſhell. 12. The fine, thin, very pale brown, and tranſparent Cochlea. 13. The brown Cochlea, with ſingle zones. 14. The brown Cochlea, with ternated zones. 15. The brown Cochlea, with four zones. 16. The brown Cochlea, with five zones. 17. The thin-ſhelled, plane, yellow Cochlea, with a brown lip. 18. The brown Cochlea, with a purple lip. 19. The very thin, reddiſh Cochlea, with a purple lip.

Theſe are the ſpecies of the ſmaller Cochleæ I have hitherto obſerved; they are all to be met with about Batterſea, near the gardens, in great abundance; and, on throwing them into boiling water, the animal is readily taken out, and the ſhells are fit for laying up.

3. Of the depreſſed, or broad and very little elevated ſnails, theſe are the following ſpecies.

Cochlea depreſſa carnea, fuſco radiata, ore marginato.
The depreſſed, fleſh-coloured Snail, radiated with the brown, and with a marginated mouth.

This is an extreamly beautiful ſpecies; it is near an inch in diameter, and little more than a third of an inch in height: it is formed of four volutions, and the clavicle, which is ſcarce at all elated, terminates in a rounded extremity: the mouth is large, rounded, and edged, with a round and thin rim; it is expanded to conſiderably more than the diameter of the ſhell: the colour is a faint reddiſh or fleſh colour, and it is elegantly radiated with a deep purpliſh-brown.

I have met with it on the buſhes in Lancaſhire, but very rarely; in Germany it is frequent.

Cochlea depreſſa, albida, purpuro-fuſco radiata.
The whitiſh, depreſſed Snail, variegated with rays of purpliſh-brown.

This is a very depreſſed or flatted kind; it meaſures about three quarters of an inch in diameter, and it's height or thickneſs is not more than a third of an inch: it conſiſts of about three volutions, and has a rounded but depreſſed mouth, filled up in great part by the ſucceeding volution, and edged with a thin rim: the colour of the whole is a pale greyiſh-white, but it is faintly radiated with lines and clouds of an obſcure purpliſh-brown.

We have it on the buſhes and in gardens in Yorkſhire, but it is leſs frequent in other parts of the kingdom; in Germany and France it is common.

Cochlea albida, depreſſa, ore ſubrotundo labiato et dentato.
The whitiſh, depreſſed Cochlea, with a roundiſh, labiated, and dentated mouth.

This is a very ſingular ſpecies; it's breadth is about half an inch, and it's height or thickneſs not more than a third of an inch: it conſiſts of three or four volutions, and the clavicle terminates obtuſely, and is not at all elated: the mouth is ſituated on the under part of the ſhell, and is more than a quarter of an inch in length, and almoſt as much in breadth, being of a figure nearly rounded; it has a ſomewhat broad lip, of a pearly white colour, and is ſlightly dentated on each ſide: the colour of the whole ſhell is white, without any variegation.

We have it in Charlton-foreſt in Suſſex, elſewhere I have not ſeen it living; but I have ſpecimens of it from Italy, where it is frequent.

Cachlea depreſſa cornea faſciata.
The horn-coloured, depreſſed, faſciated Cochlea.

The Jamaica, Ribband-ſnail.

This is an extreamly elegant ſpecies; it is an inch and a half in diameter, but ſo very much depreſſed or flatted, that it's utmoſt height or thickneſs is not half an inch: it conſiſts of three or four volutions; the outer one conſiderably large, the others ſmaller in proportion, as they approach the center: the clavicle is ſcarce at all elevated, and terminates obtuſely: the mouth is rounded, but in part filled up with the ſucceeding volution of the ſhell: the ground colour of the ſhell is a pale brown, and the other white, having much the appearance of a ribband, whence the name of the ſhell.

We have not this ſpecies a native with us, but it is ſent frequently from Jamaica, where it is common.

Cochlea albida, depreſſa, ore expanſo labiato et profunde dentato.
The white, depreſſed Cochlea, with a wide, labiated, and deeply dentated mouth.

This is a very ſingular and a very elegant ſpecies; it is about an inch and a quarter in diameter, and a third of an inch, or little more, in thickneſs: it conſiſts of four elegant volutions, and the clavicle is not at all elevated, but terminates obtuſely: the colour is white, but there runs an orange-coloured faſcia along all the volutions in moſt of the ſpecimens, but in ſome this is wanting. The moſt extraordinary circumſtance in this ſpecies is the mouth, which is not a ſimple opening, terminating the laſt volution of the ſhell, as in the others, but is placed tranſverſely, and has a very large and broad lip, covering on the lower part two or three volutions of the ſhell, and elegantly and deeply dentated on both ſides.

This is an American ſpecies; we have it principally from Jamaica.

BUCCINA, TRUMPET SHELLS.

Buccinum flaveſcens ore rotundo minore.
The yellow, land Buccinum, with a round, ſmall mouth.

THIS is a ſpecies of no great beauty, but very ſingular in it's form; it is about three quarters of an inch in height, and leſs than half an inch in diameter in the largeſt part: the body of the ſhell is of an oval figure; and the mouth, which is continued from it's extremity by a kind of neck, is ſmall and perfectly round: the clavicle has four volutions, and terminates obtuſely; the colour of the whole ſhell is a duſky yellow.

It is very frequent in the woods in Germany, and in ſome other parts of Europe.

Buccinum albeſcens faſciis violaceis.
The whitiſh Buccinum, with violet-coloured zones.

This is an inch in height or length, and three quarters of an inch in diameter in the largeſt part of the body: the mouth is large, and nearly round; the body of the ſhell is inflated, as it were, and the figure approaches to oval: the clavicle has four volutions, and terminates in a little round button; the ground colour of the ſhell is a pale grey, but it is variegated with elegant zones of a deep violet blue, variegated with a bright white.

It is a native of many parts of Europe, but not of England; we have ſpecimens of it from Italy, and from the South of France.

Buccinum tenue ventricoſum variegatum.
The thin, bellied, variegated Buccinum.

This is a very large and a very elegant ſpecies; it is three inches in length or height, and near two in diameter in the largeſt part of the body: the mouth is oblong and very large; the body of the ſhell is tumid, and approaches to an oval figure; and the clavicle has about four volutions, and terminates obtuſely: the ſhell is extreamly thin and light, and is variegated in an elegant manner, with a deep gloſſy brown, and a bright white, and frequently there is ſome purpliſh among it.

We have this from the American iſlands, where it is frequent in the woods, and makes a very odd appearance, as it crawls up the trees, and along the hedges.

Beſide theſe three ſpecies there are, of the larger land Buccina, 1. The elegant, brown Buccinum, variegated with purple and white. 2. The large, tall, thin Buccinum, with elegant variegations of white and fleſh colour. 3. The pale, brown Buccinum, variegated with a deeper brown and white; and, 4. The ſimple, brown, or olive land Buccinum.

2. Of the minute land Buccina, there are the following ſpecies.

Buccinum fuſcum ventricoſum ore rotundo.
The brown, ventricoſe Buccinum, with a round mouth.

This is a very neat and elegant little ſpecies, though wholly without variegations; it is about a third of an inch in height, and a quarter of an inch in diameter in the largeſt part: the body is inflated or ventricoſe, and of a rounded figure; the clavicle has four volutions, and terminates obtuſely; the mouth is ſmall and round: the colour of the ſhell is a fine cheſnut brown; the whole ſurface bright and gloſſy, but without any the leaſt admixture of any other colour.

I have met with this about the decayed ſtumps of trees in Charlton-foreſt, and in the Arbor Vitæ grove at Goodwood.

Buccinum conicum ore ovato.
The conic Buccinum, with an oval mouth.

This is a very minute ſpecies; it's length is about a tenth of an inch, and it's diameter, in the largeſt part, is not more than equal to a third of it's length: it's figure is pretty regularly conic; the mouth is in a manner detached from the body of the ſhell, and affixed to a kind of neck, and is of an oval figure, and ſurrounded with a narrow lip or rim: the body grows gradually ſmaller from the baſe to the top, and is formed of about ſix volutions; the ſummit is pointed: the colour of the whole ſhell is a pale yellowiſh.

I have met with this in ſome of the woods in Yorkſhire, among the damp moſs at the bottoms of old trees; it is ſometimes of a deeper, ſometimes of a paler, yellow.

Buccinum conicum albeſcens, ore majore ovato.
The whitiſh, conic Buccinum, with a larger oval mouth.

This is about an eighth of an inch in length, but it is a very elegant and regularly figured ſhell; it's diameter, in the thickeſt part, is equal to about a third of it's length: it's mouth is large, and of a tolerably regular oval figure, and projects a little from the verge of the ſhell; the whole conſiſts of five volutions, and the extremity of the clavicle is formed into a fine point: the colour of the whole ſhell is a greyiſh-white, with an elegant natural poliſh.

I have met with it in Rockingham-foreſt in Northamptonſhire, among the moſs about trees.

Buccinum heteroſtrophum conicum ore ovato minore.
The ſmall, oval-mouthed, heteroſtrophous, conic Buccinum.

This is alſo a very elegant and ſingular little ſhell; it approaches greatly to the figure of the two former, but it's volutions are turned the contrary way, and conſequently it's mouth opens in a contrary direction to them: it is about a ſixth of an inch in length, and it's diameter, in the largeſt part, is equal to about a third of it's length; the mouth is ſmall, and of an oval form, and is ſurrounded by a narrow, rounded lip: the whole ſhell conſiſts of five volutions, and the clavicle is carried up to a fine point; the colour of the whole is a gloſſy brown, without any variegation.

I have met with this ſeveral times in the Weſt of England: they have a way of building walls of rough ſtone, by way of incloſures, in this part of the kingdom. I firſt obſerved this ſhell, on taking off a ſpecimen of the Umbilicus Veneris from one of theſe walls near Shepton Mallet in Somerſetſhire; ſeveral of them were fixed to the lower part of the ſtalks of that plant.

DOLIA, GLOBOSE SHELLS.

Dolium ſubrotundum ore maximo labiato.
The roundiſh Dolium, with a very large, labiated mouth.

THIS is a very delicate and tender ſhell; it is indeed ſo thin and brittle, that it is not eaſy to touch it without cruſhing it to pieces: it is about half an inch in length, and nearly as much in diameter; the body is rounded and inflated, and the mouth extreamly large, and of a ſomewhat oval figure, ſurrounded with a narrow lip: the clavicle is ſhort; it has not more than three volutions, and terminates in a ſharp point: the colour of the whole ſhell is white, without any variegation.

I have ſeen this ſpecies ſometimes in the Weſt of England, but it is not common: in the South of France it is frequent.

Dolium elatius ore ovato nudo.
The taller Dolium, with an oval, naked mouth.

This is three quarters of an inch high, and but little more than a quarter of an inch in diameter in the largeſt part: the body is of an oval form; the mouth is pretty regularly oval, and is not nearly ſo large as in the former ſpecies, and has no lip: the clavicle has three volutions, and terminates in fine a ſharp point: the colour is an elegant pale yellow, much reſembling that of the peel of a lemon; and the ſhell is ſo extreamly thin, that it is not eaſy to handle it without deſtroying it.

It is frequent in the woods of France, but we have it not native in England.

The other ſpecies of Dolia are, 1. The larger, thicker, ſhelled, brown Dolium. 2. The larger, thicker, ſhelled, white and reddiſh Dolium. 3. The large, very thin, ſhelled, bluiſh Dolium. 4. The leſſer variegated yellow and brown Dolium, with the ſhell extreamly thin. 5. The leſſer, brown and purple Dolium, with a ſomewhat thicker ſhell. 6. The leſſer, thick, white Dolium, with a blue rim to the mouth.

TURBINES, SCREW-SHELLS.

ALL the known land Turbines are very minute.

Turbo anguſta fuſca ore elongato.
The ſlender, brown Turbo, with a narrow, oblong mouth.

This is about a quarter of an inch long, and is hardly a fourth of it's length in diameter at the bottom: from this part it grows gradually ſmaller to the ſummit, where it is terminated by a very ſharp point: the mouth is narrow, and is carried up a great way into the firſt volution of the ſhell; the whole ſhell conſiſts of about eleven of theſe, and is ſomewhat deeply furrowed by the ſpiral line, which ſeparates them: the colour of the whole is an elegant pale yellow, but the lining of the mouth is white.

We have it in ſome of our woods about London, among the damp moſs, about the ſtumps of decayed trees.

Turbo brevior volutionibus ſtriatis.
The ſhorter Turbo, with the volutions all ſtriated.

This is not longer than a full-grown barley-corn, but it is thicker than the generality of the Turbines, in proportion to it's length: the mouth is of an oval figure; the largeſt part upwards, which is the contrary of the mouth of the preceding ſpecies; the top is obtuſely terminated; the whole ſhell is formed of about twelve volutions, not very diſtinctly ſeparated, but all of them finely ſtriated in a ſpiral direction: the colour is an elegant cheſnut brown.

We have it in ſome of our old hedges, among the damp moſs that grows about the ſtumps of the trees, and in the ditches.

Turbo anguſtior margine volutionum pectinata.
The ſlender Turbo, with the edge of the volutions pectinated.

This is the moſt elegant in it's ſtructure of all the land Turbines; it is about a ſixth of an inch in length, and is hardly a third of it's length in diameter: the mouth is narrow, of a form approaching to oval and labiated; the whole ſhell conſiſts of about twelve volutions, and the rim or edge all the way is deeply and elegantly denticulated, or rather pectinated, the denticulations being deeper than what are uſually expreſſed by that name: the colour is a duſky grey, but toward the top it is whitiſh.

I met with this ſpecies in conſiderable abundance ſome years ſince, among the great tree lungwort, on the old beeches, in Charlton-foreſt in Suſſex; elſewhere I have not ſeen it.

Turbo volutionibus tumidis ore ſubrotundo.
The round-mouthed Turbo, with tumid volutions.

This is about an eighth of an inch in length, and nearly a third of it's length in diameter: the mouth is round, and has no lip ſurrounding it; the ſhell is formed of about nine volutions; they are elevated and tumid, and the line between them is conſequently ſunk very deep: the colour of the whole is a yellowiſh-brown, only toward the top, or ſmaller extremity, the brown wears off, and the colour more approaches to a whitiſh-yellow.

This ſpecies alſo I met with in Charlton-foreſt, and have not ſeen it elſewhere.

The other ſpecies of land Turbo's are, 1. The very ſlender, yellow Turbo. 2. The very ſlender, whitiſh Turbo, with punctated volutions, and a narrow mouth. 3. The ſlender, brown Turbo, with a round mouth, and a very ſhallow line between the volutions. 4. The ſhort, thick Turbo, with a very ſharp point, and a long ſlit in the place of a mouth. I am apt to believe more ſpecies will be diſcovered; theſe have been principally of my own finding in damp woods, while I was inveſtigating the moſſes.

Animals living under the defence of ſhelly coverings.

Series the Fourth.

CENTRONIÆ. Sea Hedge-hogs.

THE Centroniæ are animals living under the defence of a ſhelly covering, formed of one piece, and furniſhed with a vaſt number of ſpines, moveable at the animals pleaſure.

The animals of this ſeries have been called by authors Echini Marini, Sea Hedge-hogs, from ſome reſemblance, in the prickly ſurface of the ſhell, to the coat of the land animal of that name; but this is a very poor characteriſtic from which to name a claſs of animals, whoſe whole ſtructure is full of eſſential marks of diſtinction.

It has been warmly diſputed, between authors of note in theſe ſtudies, whether the Centroniæ, or Echini Marini, as they call them, belonged properly to the teſtaceous or the cruſtaceous animals, that is, whether they were to be arranged among the ordinary ſhell-fiſh, or among the crab and lobſter kind; it is eaſy to determine the controverſy, by obſerving that they belong to neither: their characteriſtics, the ſtructure of their bodies, and even the form, uſe, and intent of their ſeveral exterior parts, uſually comprehended under the term, ſhell, are wholly different from thoſe of all other creatures; and though all the ſpecies are referable to the ſame claſs, and, indeed, in ſtrictneſs to the ſame genus, yet they are a diſtinct ſeries of animals by themſelves, and demand to be placed accordingly.

Centronia ſubgloboſa papillis minoribus.
The roundiſh Centronia, with ſmall papillæ. The round Sea-egg.

This is a conſiderably large ſpecies; we uſually meet with it of about an inch and a half in height, and as much in diameter, but it often grows to three times that ſize: it's figure is nearly round, but ſomewhat depreſſed at the bottom; it's covering, which, as in the ſhell-fiſh, is the thing principally demanding our attention, is formed of one ſingle piece, and is of a ſhelly ſtructure and hardneſs: in the center of the baſe there is a large, roundiſh aperture, at which is placed the mouth of the animal; and on the ſummit there is another aperture, ſmaller than the former, but of a like roundiſh figure, out of which the creature voids it's excrements: the colour of the whole ſhell is a duſky reddiſh, with an admixture of whitiſh, and often of greeniſh: it is covered with an innumerable multitude of papillæ, which are ſmall, and diſpoſed in regular lines from the upper aperture to the lower: ten of theſe lines, diſpoſed into five pairs, are formed of papillæ larger than the reſt, and make a pretty figure on the ſhell; they are all elevated, more or leſs, above the reſt of the ſurface of the ſhell, and give origin to a multitude of ſpines, which arm the whole ſurface, and give the creature, while living, and under water, that appearance of the hedge-hog, from which it has been named Echinus: the ſpines are about a third of an inch long, and very ſlender; they are of a reddiſh colour, and are pointed at the extremities; they are all moveable, by means of muſcles affixed to their baſes, but they are apt to fall off, when the creature is dead, on the ſlighteſt touch: beſide theſe ſpines, which are more than two thouſand in number on this ſpecies, there are about twelve hundred apertures in the ſhell, out of which the creature thruſts ſo many fleſhy tentacula or filaments at pleaſure, by means of which it fixes itſelf to the bottom: the ſpines ſerve it, on the contrary, by way of legs, to move forward with, and for it's defence, and ſeveral other purpoſes; the natural poſture of the creature is, with the broad or depreſſed part, called the baſe, toward the bottom: at the aperture, in the center of this, is ſituated the mouth, which is furniſhed with five ſharp teeth, fixed at the extremities of five little bones, in the center of which is placed the tongue; the baſe of this is a caruncle of a rounded form, and the whole is fleſhy: from the hinder part of the mouth there begins an inteſtinal canal, which is carried in ſeveral volutions round about the inſide of the ſhell, to which it is fixed by a multitude of fine fibres; it finally terminates at the aperture, in the top of the ſhell.

Thus

Thus much of the general ſtructure of the creature may ſerve alſo as part of the deſcriptions of the ſucceeding ſpecies, for they all agree in general in theſe particulars.

This ſpecies is frequent in our ſeas, and in moſt of the other parts of Europe; it becomes white, by long lying on the ſhore.

Centronia ſubgloboſa ſpinis maximis quadratis.
The roundiſh Centronia, with very large, ſquare ſpines.

This is an extreamly ſingular ſpecies, and, when perfect, makes a very odd figure; but the ſpines are ſo eaſily diſplaced, that we very rarely meet with it ſo: the body or ſhell, excluſively of the ſpines, is about two inches in diameter, and as much in height, but, with thoſe appendages on it, meaſures nearly three times as much; it has a large aperture at the baſe, where the mouth is placed, and a ſmaller at the ſummit, both of a roundiſh but ſomewhat dentated figure: the whole ſurface of the ſhell is beſet with large tubercles or papillæ, though they are much leſs numerous than in thoſe which have them ſmaller: on theſe are affixed the ſpines; they are an inch and a half in length, and nearly a third of an inch in diameter in the largeſt part: they are largeſt near the middle, and have four angles, which give them a ſquare figure at the baſe, where they are affixed to the papillæ of the ſhell; they have a kind of head, formed ſo as to fit the papilla; at the other end they are obtuſe: the colour of the body of the ſhell is a deep brown; the ſpines are of a paler brown, ſomewhat approaching to whitiſh.

We have it from the coaſts of the American iſlands, but it is very rare even there, and is ſeldom taken up without the loſs of many of it's ſpines; and the greater part of the reſt are uſually loſt, before it comes to us; ſo that we uſually meet with only the body of the ſhell, with a looſe ſpine or two that have fallen off from it.

Centronia ſubgloboſa ſpinis maximis cylindraceis.
The roundiſh Centronia, with very large, rounded ſpines.

This is an extreamly elegant ſpecies; the body of the ſhell, which is all we uſually meet with, is of a figure approaching to roundiſh, but much depreſſed at the baſe: it has a large opening at the center of the baſe, and a ſmaller on the ſummit, both approaching to a rounded figure, but with dentated edges: the papillæ on this ſpecies are but few in number, but they are extreamly beautiful; they are of the breadth of a ſilver two-pence, and are of a figure approaching to that of a ſegment of a ſphere; at their top there ſtands a little obtuſe umbo, and round about the verge of each there is a circle of little round protuberances: theſe papillæ are placed in double ſeries, each ſeries having about ten of them; and theſe are ſeparated by broad, undulated faſciæ or bands, running from the upper orifice of the ſhell to the lower: the colour of the ſhell is a faint red, when recent; but we uſually meet with it white, from it's having lain long on the ſhores. This is all we uſually ſee of this ſpecies in our cabinets; but, when the creature is perfect and living, there is affixed to each of theſe papillæ a ſpine of two inches in length, and of the thickneſs of a child's finger; theſe have a kind of head at one end, where they have been fixed to the papillæ, and at the other they are obtuſe; they are of a rounded, not angulated, figure, and are nearly of the ſame thickneſs all the way, only a little largeſt toward the middle.

This is a native of the Red-Sea and of the Perſian Gulph; the fineſt we have ſeen have been taken up about the ſhores of the iſland of Ormus.

Centronia ſubgloboſa ſpinis variis ſubcærulea.
The roundiſh, bluiſh Centronia, with differently ſhaped ſpines.

This is alſo a very elegant ſpecies: the body is of a roundiſh figure, but flatted at the baſe, and the aperture at the top is very large, nearly equal to that at the baſe in diameter: the whole ſurface is very elegantly diverſified with papillæ of various forms and ſizes; theſe are divided into certain ſeries by five longitudinal faſciæ, which are elegantly formed, and are full of little perforations; between theſe there ſtand ſeveral ſeries of larger and of ſmaller papillæ, all following the direction of the bands, and all very regularly arranged: this is all that we uſually ſee of this ſpecies in our cabinets,

but, when living, it makes a much more ſingular appearance: all the larger papillæ are furniſhed with ſpines of a rounded figure, obtuſe, and an inch long; on the ſmaller papillæ ſtand ſpines of half the length of the others, very ſlender, and pointed at the extremity, and from the holes in the bands the creature throws out a kind of arms, or fleſhy filaments, to hold itſelf in it's place.

It is a native of the Eaſtern Seas, but we have the naked ſhell frequent in our cabinets; it is bluiſh, when recent, but becomes white in keeping.

Centronia depreſſa cordata ſpinis capillaceis.
The depreſſed, cordated Centronia, with capillaceous ſpines.

This is a large ſpecies; it's figure is oblong and cordated; it's length is three inches; it's breadth at the larger end, where it is ſinuated ſo as to give it a cordated form, is two inches and a quarter, and it's depth not more than an inch and half: the aperture where the mouth is placed is large, and in the center of the baſe; that for the anus is at the extremity of the body, oppoſite to the cordated end, not on the ſummit, as in the rounded ſpecies: there run from the center of the upper part of the ſhell four rays, each formed of a double ſeries of lines, and each narrow at the baſe, broader in the middle, and narrow again at the point: the reſt of the ſurface is covered with ſmall, roundiſh papillæ; the colour is whitiſh, and, when the creature is alive, there ſtand a multitude of ſhort, ſlender, and capillaceous ſpines on the papillæ, and fleſhy filaments are thruſt out from the apertures or perforations at the edges of the lines or rays.

We have it from the American ſhores.

Centronia depreſſa plana margine digitato.
The depreſſed, flat Centronia, with a digitated edge.

This is about two inches in diameter, and is not more than a ſixth of an inch in thickneſs or height: the ſhell is very thin, and of a whitiſh colour; it is rounded, and in ſome part the verge is entire and undivided, but in other parts it is deeply ſinuated or cut in, ſo that the parts between the indentings reſemble fingers: it has a beautiful configuration of four rays on the ſurface, and has a number of minute papillæ, not covering the whole ſurface, but only diſpoſed in ſeries, on which, when the creature is living, there ſtand very fine, ſlender ſpines.

We have this on ſome of the American ſhores: the number of the digitations in the ſhell is uncertain and irregular; it is uſually from ſix, or ſeven, to twelve.

Centronia depreſſa plana diſco quinquies perforato.
The depreſſed, plain Centronia, with five perforations on the diſk.

This is alſo a very ſingular ſpecies; it is one of thoſe which are flatted into the form of a thin cake: it's circumference is round; it's diameter not leſs than two inches, but it's thickneſs is not more than that of a crown-piece: it's colour is whitiſh, and it's ſurface furniſhed with a number of papillæ in regular ſeries, and very minute: there are four elegant rays formed of perforated double ſeries of lines running from the center toward the verge, in this ſpecies; but what is moſt ſingular is, that there are between theſe, toward their extremities, five oblong, oval perforations, a third of an inch in length, and half their length in diameter, pierced quite through both ſurfaces of the ſhell.

We have this from the ſhores of the American iſlands; when perfect, there ſtand on the papillæ a great number of fine, ſlender, and pointed ſpines.

Centronia depreſſa ad marginem biperforata.
The depreſſed Centronia, with two perforations near the edge.

This is another of the flat kinds; it is of a rounded figure, and about an inch and a half in diameter: it's whole thickneſs is not more than that of a crown-piece; it's colour is white, and the edges are undivided; from the center of the upper ſurface there run five double ſeries of lines, making ſo many ſhort, broad, obtuſe, and ſomewhat oval rays; and toward the edge, on the anterior part of the ſhell, there are two oblong

and

and narrow perforations quite through the body of the ſhell. While living, the creature is furniſhed with a great number of very fine ſpines, like ſegments of briſtles; but theſe fall off very eaſily, ſo that we rarely ſee any of them.

It is a native of the American Seas; we have it frequent in our cabinets.

Centronia depreſſa biperforata margine digitato.
The flat, biperforate Centronia, with a digitated edge.

This might, at firſt ſight, be eſteemed only an accidental variety of the preceding ſpecies, but the diſpoſition and form of the rays on the ſummit ſhew that it is truly a diſtinct ſpecies: it's figure approaches to round, but it is ſomewhat irregular; it's diameter is two inches and a half, and it's thickneſs, including both the ſhells and the hollow for the habitation of the animal, is not more than a fifth of an inch; part of the verge is even and undivided, but part is deeply and irregularly ſinuated, and forms about ten digitations: on the oppoſite or undivided part of the ſhell there are two perforations; they are about a third of an inch in length, and half their length in diameter: the digitations in this, and the other ſpecies which have them, ſeem formed of theſe perforations, continued to the edge of the ſhell: in the center of this ſpecies there are five narrow, long, and ſharp-pointed rays, formed of double ſeries of lines, punctated as in the others; there are alſo ſome annular lines at ſmall diſtances, running all over the ſurface; and, when the creature is living, there are many ſeries of fine, ſlender ſpines.

We have it from the ſhores of the American iſlands.

Centronia ovata depreſſa margine undulato ſexies perforata.
The oval, depreſſed Centronia, with an undulated edge, and ſix perforations.

This is another of the flat kinds; it is about two inches in length, and an inch and half in breadth at the larger end; it is conſiderably ſmaller at the other, but is obtuſe at both, and is not more than a fifth of an inch in thickneſs: the whole verge is undulated, but is not digitated in any part, and toward the verge there ſtand, at pretty regular diſtances, ſix oblong and narrow perforations: from the center there run five rays; they are oblong and narrow, and are formed, as in the others, of double rows, of punctated perforations: when the ſhell is recent, there ſtand ſeveral ſeries of fine, ſlender, and pointed ſpines on it; but theſe are uſually loſt, from the ſhells preſerved in our cabinets.

We have it from the American iſlands, principally from Barbadoes.

Centronia ſubgloboſa ſpinis aduncis faſciculatis.
The roundiſh Centronia, with crooked and faſciculated ſpines.

The Sea-apple.

This is one of the roundeſt of this whole genus: the depreſſed part at the baſe is ſmall, and the reſt of the figure is very regularly ſpherical; the aperture for the mouth is at the baſe, and that for the anus at the ſummit of the ſhell. When we ſee the ſhell naked, as it uſually is, in our collections, we only can obſerve a number of ſmall papillæ on it's ſurface, thrown together in little cluſters; but, when the creature is living, it is all over covered with little cluſters of ſpines; theſe are about a third of an inch in length, and are ſlender, crooked, and pointed at the extremities: this is a very rare ſpecies.

It is ſometimes brought from the Mediterranean, but few of the ſpines are preſerved.

Centronia globoſa ſpinis aciculatis.
The globoſe Centronia, with needle-like ſpines.

The Needle-ſhell.

This is one of the moſt ſingular of the whole genus; the body is almoſt perfectly globoſe; the apertures are one at the baſe, and the other at the ſummit, and the whole ſhell, as we uſually meet with it, which is without the ſpines, is covered with very minute,

minute, reddiſh papillæ: when it is perfect, there grow from all theſe papillæ ſtraight, long, ſlender, whitiſh ſpines, an inch in length, and not thicker than a ſmall needle; ſo that the whole has much the appearance of a round pincuſhion, in which ſomebody had fixed as many fine needles as it was poſſible, with their points outward.

It is a very rare ſhell, and is a native only of the Eaſtern Seas.

The other ſpecies of Centronia, or Echini Marini, are numerous, and may be arranged under different diviſions.

1. Of the roundiſh or ſubgloboſe ones, called by Klein and ſome others Cidares, beſide the ſpecies already deſcribed, there are, 1. The great, round Centronia, with minute papillæ. 2. The great, round Centronia, with very prominent papillæ. 3. The little, round Centronia, with elevated papillæ. 4. The leſſer, globoſe Centronia, with high papillæ. 5. The globoſe Centronia, with variolated papillæ. 6. The little, globoſe Centronia, with larger, variolated papillæ.

2. Of the cordated kind, called by Klein Spatangi, and Spatagoides, there are, beſide the already deſcribed, 1. The high-backed Centronia, with five narrow rays. 2. The little, ovated Centronia, with the ſinus very deep. 3. The little, high-backed Centronia, with a ſhallow ſinus. 4. The large and ſomewhat depreſſed Centronia. 5. The large, very broad, and thin-edged Centronia. 6. The large, depreſſed Centronia, with five elegant broad rays.

3. Of the flat kind, called Placentæ by Klein, beſide the already deſcribed ſpecies, there are, 1. The oval, flat Centronia, with two perforations. 2. The round, flat Centronia, with three perforations, and the edge ſomewhat digitated. 3. The flat, undulated-edged Centronia, with four perforations. 4. The rounded, flat, ſomewhat digitated-edged Centronia, with ſeven perforations.

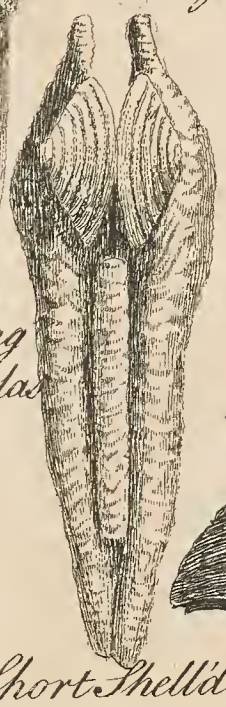
Klein, who has been at great pains to arrange theſe bodies, has divided them into a number of other genera, but they may be all conveniently arranged under one or other of theſe diviſions. Beſide the known recent ſpecies, we meet with ſeveral others in the foſſile ſtate, and with the ſpines of other equally unknown kinds, many of which are of a very ſingular figure.

THE

Balani



The Oblong white Pholas



The Short Shell'd Pholas



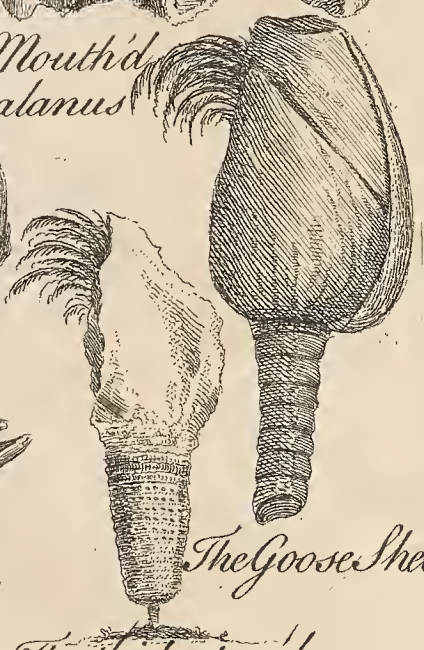
The Narrow Mouth'd Grey Balanus



The great wide Mouth'd Balanus



The Blueish Polliceps



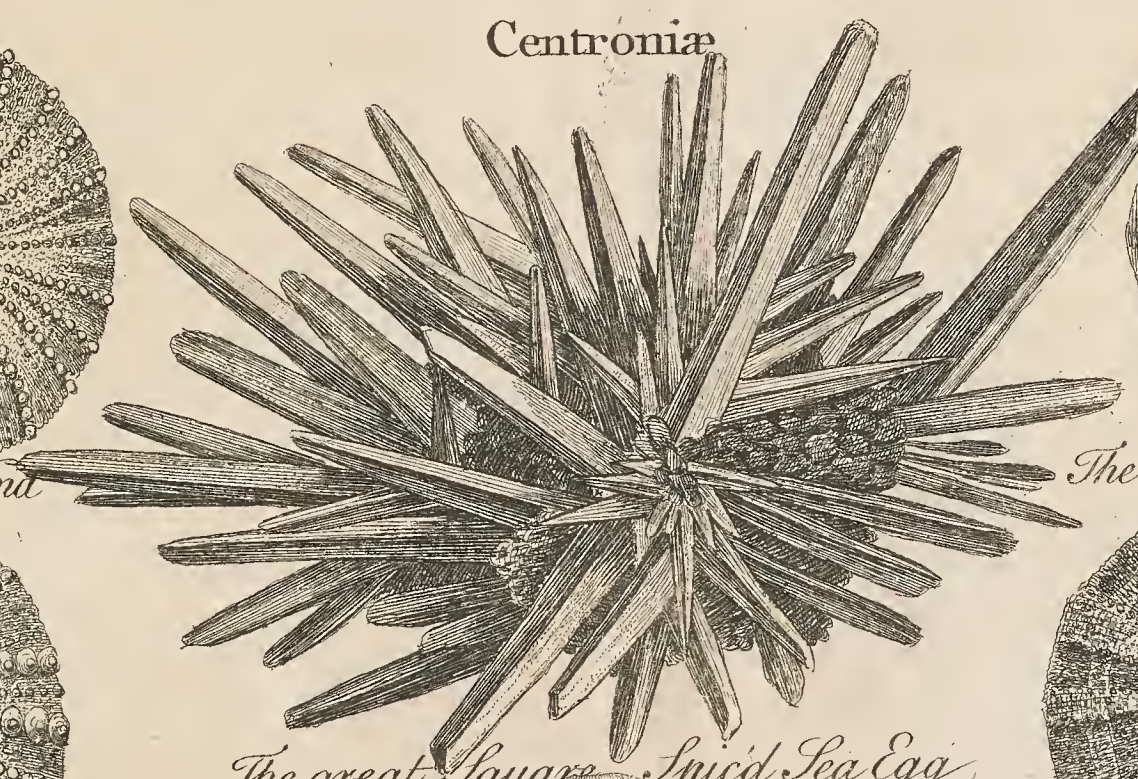
The Goose Shell

The thick stem'd Goose Shell

Centroniæ



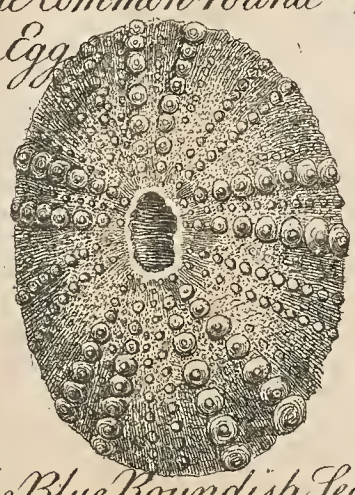
The common round Sea Egg



The great Square Spic'd Sea Egg



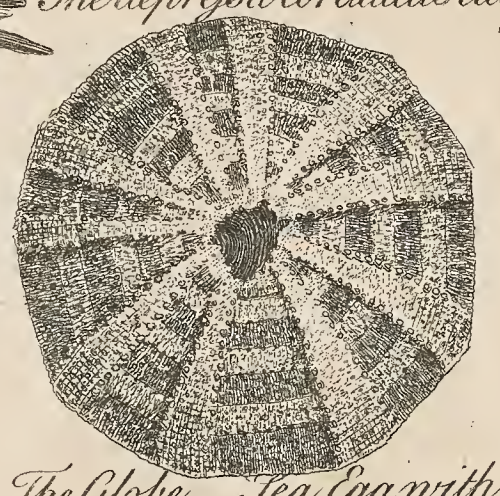
The depress'd Cordated Sea Egg



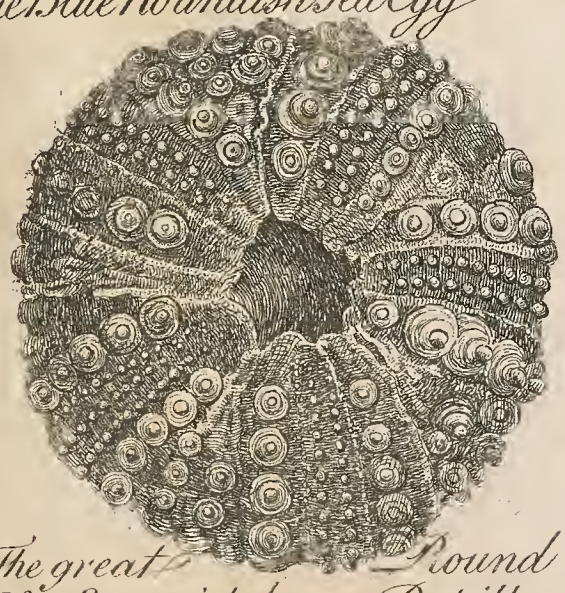
The Blue Roundish Sea Egg



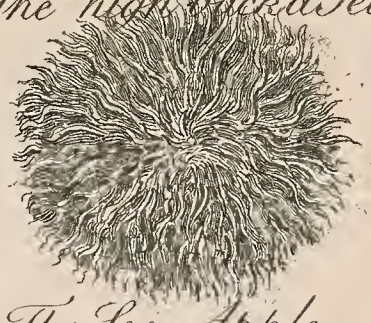
The high track'd Sea Egg



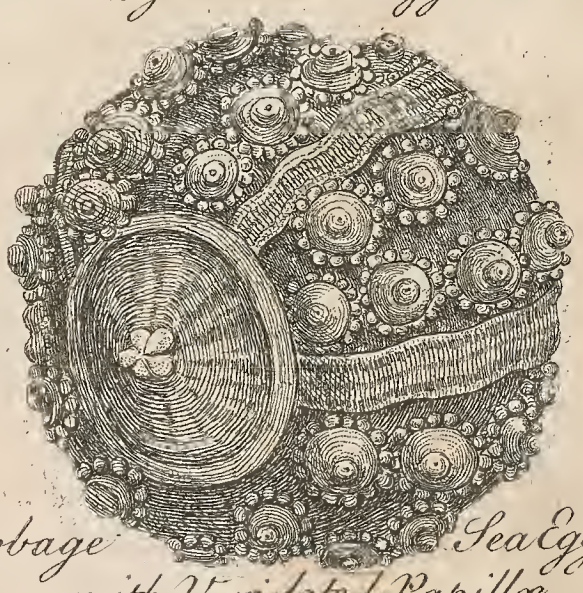
The Globe Sea Egg with



The great Round Sea Egg with large Papillæ



The Sea Apple



The Globage Sea Egg with Variolated Papillæ

B. Cole sculp.

THE HISTORY OF ANIMALS.

PART IV.

FISHES.

FISHES are animals which have no feet, but have always fins.

Fiſh reſpire either by means of their branchiæ or gills, or by lungs, like thoſe of land animals; they inhabit the waters, and perform their motions, either by means of their fins, or by the flexuous agitation and turning of their bodies. There are ſome ſpecies which will occaſionally quit the water, and come on land; and ſome which fly for a time, by means of their pectoral fins, which are large, and formed for that purpoſe.

The ſeveral kinds of fiſh have certain obvious and invariable characters, according to which they may be arranged into certain ſeries, and under theſe into ſeparate claſſes, compoſed of the different genera which agree in their general characters, though they differ in ſuch as are ſufficient to diſtinguiſh them, under theſe, into the ultimate arrangement.

The firſt diviſion into ſeries is eſtabliſhed on the difference in the ſituation of the tail, and in the ſtructure of the fins, and of the parts about the gills.

The generality of fiſh have their tails placed in a vertical direction, but ſome have them horizontal, as all the cetaceous kind; theſe laſt form only a ſingle ſeries. Of the others, or thoſe which have the tail placed perpendicularly, ſome have the rays or parts which ſupport the fins of a bony ſtructure; others have them only cartilaginous; the laſt of theſe make only one ſeries, comprehending the ray-fiſh, the ſturgeon, and the like. Of thoſe which have the rays of the fins bony, ſome have the branchiæ oſſiculated, and others have none of theſe oſſicles about them. The fiſh of the latter kind form alſo only one ſeries; but thoſe which have the branchiæ oſſiculated, have the rays of the fins alſo inoffenſive, and others have them pungent or prickly.

On theſe diſtinctions, the whole body of fiſhes are divided into five ſeries.

The firſt, under the name of Malacopterygii, *contains thoſe which have perpendicular tails, the rays of the fins bony and not pungent, and the branchiæ oſſiculated.*

The ſecond, under the name Acanthopterygii, *comprehends thoſe which have the tail perpendicular, and have the rays of the fins bony, and ſharp or prickly, and the branchiæ oſſiculated.*

The third, under the name of Branchioſtegi, *comprehends thoſe which have perpendicular tails, and have the rays of the fins bony, and the branchiæ not oſſiculated.*

The fourth, under the name of Chondropterygii, *comprehends thoſe which have perpendicular tails, and have the rays of the fins not bony but cartilaginous.*

The fifth, under the name of Plaguiri, *comprehends thoſe which have the tail not perpendicular, but placed in an horizontal direction. This is ſo remarkable a character, that there needs nothing farther to diſtinguiſh the ſeries.*

The Fiſhes, comprehended under ſome of theſe ſeries, admit no farther ſubdiviſion into claſſes, all of them agreeing in their more general characters; but thoſe of others, and particularly the very numerous ones arranged under the Acanthopterygious and Malacopterygious ſeries, have natural and obvious claſſical diſtinctions under thoſe of the ſeries, and above the generical.

Malacopterygious Fiſhes, or thoſe whoſe fins are not prickly.

Claſs the Firſt.

MESOPTERYGII.

Thoſe which have only one back fin, and that ſituated in the middle of the back.

SYNGNATHUS.

THE body of the Syngnathus is long and very ſlender; ſometimes it is rounded, but in moſt of the ſpecies it is angulated: the fins are in ſome ſpecies four, but in others there is only one: the head is of an oblong figure, and compreſſed; the jaws are cloſed together at the ſides, and the mouth has only a ſmall opening, which is quite at the extremity: the coverings of the gills are compoſed, each, only of one ſimple and very thin bony lamina.

Syngnathus teres pinnis pectoralibus caudæque carens.
The rounded-bodied Syngnathus, with no pectoral nor tail fins.

The Sea-adder.

This, of all the known fiſhes, has the leaſt appearance of one, and ſerves properly to connect the inſect and fiſh tribe: our people in Cornwal, who have given it the name of the Sea-adder, expreſs their ſenſe of it's reſemblance to the ſerpent-kind, but it much more, in reality, reſembles the worm-kind: it's length is about nine inches, and it's thickneſs is hardly that of a common earth-worm: the head is very long, ſlender, and compreſſed, and the opening of the mouth is very ſmall; the lower jaw is ſomewhat longer than the upper, and is moveable, and naturally turns up ſo, that the opening of the mouth ſeems to have a kind of operculum: the body is of a rounded but ſomewhat compreſſed figure, and it's colour is a duſky grey, with a tinge of greeniſh: the eyes are ſmall, and are placed very backward in the head; their iris is yellow: the noſtrils are two on each ſide; they are ſmall apertures near the eyes, but are not eaſily ſeen, unleſs in the full-grown fiſh; there are no teeth: the coverings of the gills are not open at the lower edge, as in other fiſhes, but there are two apertures higher up in the neck, at the ſummit of theſe: they are very ſmall openings, and ſcarce exceed the holes made by thruſting a large needle through a piece of paper: there are no ſcales, but the body is naked, and is divided into a kind of rings, like the body of an earth-worm: the anus is nearly in the middle of the body, but a little nearer the tail than the head; there is no fin at the tail, but it terminates in a fine, ſlender point, ſcarce thicker than a large thread: there is only one fin, and that is placed on the middle of the back; it is formed of a thin, whitiſh membrane, ſupported by thirty-four fine, ſlender rays: the branchiæ appear to be four on each ſide, or rather there runs a pulmonary viſcus of a reddiſh colour, down each ſide of the throat.

This ſingular fiſh is an inhabitant of the Northern Seas in conſiderable abundance; we have it in great plenty on the coaſts of Yorkſhire, and other places. Willughy calls it Acus Lumbriciformis; and Ray, Ophidion Lumbriciforme. The people in Yorkſhire call it the Sea-worm; but it is more generally known in England by it's Corniſh name of the Sea-adder, though the former is the more expreſſive.

Syngnathus

Syngnathus corpore medio heptagono, cauda pinnata.
The Syngnathus, with the middle of the body heptangular, and a fin at the tail.

This is a very ſmall, as well as a very ſingular, ſpecies: it rarely exceeds four inches and a half in length, and it is of the thickneſs of a large gooſe-quill: the head is long and ſlender; the opening of the mouth is very ſmall, and is placed at the extremity of a kind of roſtrum or ſnout, formed by the elongation of the head: the eyes are very ſmall, and the coverings of the gills are ſmall, and are not round, but oblong, and placed high up toward the back of the head: the body is ſlender, but it is not rounded, as in the former ſpecies, but angulated; from the head to the anus it is heptangular, or has ſeven ridges; from the anus to the extremity of the back fin it is hexagonal, and from this part to the extremity of the tail it is quadrangular or ſquare, and grows gradually ſmaller, all the way to the end: the whole body is covered with a kind of laminæ or plates, of a figure approaching to quadrangular, and ſtriated; it's colour is a reddiſh-brown: the noſtrils have two apertures on each ſide, placed juſt before the eyes; the pectoral fins are two; they are roundiſh and very ſmall; they have fourteen or fifteen rays in each, and ſtand ſomewhat nearer the belly than the back of the fiſh; there are no belly-fins; on the back there is one fin; it ſtands lower on the body than the anus; it has thirty-five rays which are not divided at their tops, and are all of the ſame length: the tail terminates in a radiated fin, which is ſupported by ten rays, not divided at the extremities; there is juſt below the anus a very ſmall fin, ſupported by three rays.

We have this ſpecies about our own coaſts, particularly on the weſtern part of the iſland, but we have no Engliſh name for it. Geſner calls it Typhle; Ray and Willughby have named it, Acus Ariſtotelis ſpecies altera major.

Syngnathus corpore medio hexagono cauda pinnata.
The Syngnathus, with the middle of the body hexangular, and the tail pinnated.

The Needle-fiſh.

This is about five inches in length, and is more than a third of an inch in diameter; the head is long, narrow, and of a compreſſed form; the opening of the mouth is ſmall; the eyes are very ſmall, and the apertures of the noſtrils are two on each ſide, and are placed very near them: the body is hexangular from the head to the anus, and from thence to the extremity of the tail it is quadrangular or ſquare: there are two ſhort and roundiſh pectoral fins; there is one fin on the lower part of the back, and the tail is terminated alſo by a fin, which, when expanded, is ſhort and truncated; and, finally, there is an extreamly ſmall fin near the anus: there are no viſible lines on the ſides; the anterior part of the roſtrum or head is very ſlender, and compreſſed.

We have this alſo frequent about our ſea-coaſts; I have met with it in great abundance about the ſhores of Yorkſhire; all the writers on fiſhes have deſcribed it. Aldrovand and others call it Acus Ariſtotelis; others, Typhle marina, and Nerophidion; Gillembourg, Serpens marinus; and Pliny, Sphondylus. We call it the Needle-fiſh.

The males and females in this, and the former ſpecies, are eaſily diſtinguiſhed; the females carrying a kind of long bag, reaching from the anus half-way to the tail; there are numerous eggs in this at the proper ſeaſon; they are full of the ſize of rape-ſeed, and of a whitiſh colour: they neither are ſo numerous, nor at all reſemble, in their arrangement or diſpoſition, the eggs of the generality of the other fiſhes of this claſs: this may indeed be, in ſome degree, ſaid to be viviparous, for the rudiment of the fœtus is, in ſome meaſure, animated, before it is diſcharged from the veſica or bag.

Syngnathus corpore quadrangulo, pinna caudæ carens.
The ſquare-bodied Syngnathus, with no fin at the tail.

The Sea-horſe, or Hippocampus.

This is an extreamly ſingular ſpecies; we ſee it dried frequently in the ſhops of druggiſts and country apothecaries, who keep it as a curioſity; and people, not acquainted with this genus of fiſhes, would take it for any thing rather than a fiſh: it's tail uſually curls up in the drying, and the head, bent down, has ſome rude reſemblance of that of a horſe; 'tis hence that the name Sea-horſe has been given it: as to the Greek name Hippocampus, thoſe who gave it did not mean to expreſs any thing of the figure of a horſe by it; but, as they called the great ant Hippomurmex, and other large ſpecies both of animals and vegetables were expreſſed by the word Hippos prefixed to their name, they expreſſed this, which they took, as they met with it dried, to be of the caterpillar kind, by the name of Hippocampus, the great caterpillar.

It is five inches long, and in the largeſt part is about half an inch in diameter; the head is long, ſlender, and compreſſed, and forms a kind of ſnout; the mouth is ſmall; the eyes are very ſmall, and there are two little apertures near them on each ſide, which are the openings of the noſtrils: juſt behind the orbits of the eyes there ſtands on each ſide a ſhort protuberance, pointed at the extremity; and there are three other protuberances on the hinder part of the head, near the opening of the gills: the beginning of the back is acute, and the anus is ſituated nearer the extremity of the tail than the head, which is not the caſe in the others: the body, from the head to the anus, is of a quadrangular figure, but the diviſions are not equal, the loweſt being broadeſt, and the upper one narroweſt of all; the lower one is, indeed, not flat but prominent in the middle, and, if cloſely examined, is found to have three ſmall angles or ridges, ſo that this part of the body, accurately ſpeaking, is heptangular: from the place of the anus to the end of the back fin the body is hexangular, but it is rather depreſſed than compreſſed ſideways in this part: from the end of the back fin to the middle of the tail the figure is quadrangular or ſquare, and, for a little way thence, it is pentangular; and, finally, from this part to the extremity it is ſquare again, but the angles or ridges are placed contrariwiſe, in this part, to their direction on the body: the hinder part of the body is very ſmall and ſlender, in proportion to the reſt; the whole body is covered with bony laminæ: there are ſeventeen of theſe from the head to the anus; from the anus to the extremity of the tail there are about forty-five: the extremity of the tail is pointed, and has no appearance of a fin; there is a long but low fin on the back, ſupported by thirty-ſix rays, and there are two ſhort and rounded pectoral fins: the colour of the whole fiſh, while living, is whitiſh, with a caſt of green, but it becomes brown in drying.

It is a native of the Mediterranean, but is not very frequent. All the naturaliſts have mentioned it, though many of them have been much at a loſs to gueſs to what claſs of animals it belonged; which is indeed the more excuſable, as very few have met with it otherwiſe than dried. It is generally called Hippocampus: Ray has called it Hippocampus Aculeatus; and ſome authors have called it Zidrach. Theſe are all the known ſpecies of the Syngnathus, or, as authors in general expreſs it, of the acus kind.

COBITIS.

THE head and the body of the Cobitis are both of a compreſſed figure, and there are certain cirri or beards at the mouth: the body is ſpotted, and the back fin, and thoſe of the belly, are at the ſame diſtance from the extremity of the head.

Cobitis tota glabra, maculoſa, corpore ſubtereti.
The ſmooth, ſpotted Cobitis, with the body ſomewhat rounded.

The Loache.

This is about three inches in length, and of the thickneſs of a man's little finger; it is very ſmooth and ſoft to the touch, and is of a duſky olive brown, ſpotted with a

deeper colour on the back and ſides, and pale on the belly; the head is compreſſed; the body is ſomewhat compreſſed alſo, but it is ſo little, that it has a rounded look: the eyes are large, and their iris is yellow; the beards are ſhort, white, and fleſhy; the back fin has eight rays; the pectoral fins have each of them twelve: the belly fins have ſeven rays each, and the pinna ani has ſix.

We have this ſpecies in ſome of our ſhallow brooks; all the writers on fiſhes have deſcribed it. Rondelet and Geſner call it Cobitis barbatula; Ray and Willughby, Cobitis fluviatilis barbatula; and ſome authors, Fundulus and Grundulus. It always keeps at the bottom, among the looſe pebbles, and often gets under large ſtones.

Cobitis aculeo bifurco infra utrumque oculum.
The Cobitis, with a bifurcated ſpine under each eye.

The bearded Loach.

This is about three inches and a quarter in length, and about half an inch, or ſomewhat leſs than that, in diameter, in the largeſt part: the head is of a depreſſed figure and oblong, and the roſtrum is bent ſomewhat downwards; the body is alſo of a depreſſed form and thin, and is ſomewhat broader toward the head than elſewhere, but it is nearly equal in breadth all the way: the upper jaw is longer than the under, and cloſes over it, receiving it in the manner that the lid of a box does the body: the opening of the mouth is very narrow; there are ſix cirri or beards about it; two of them are placed on the upper part of the mouth, two on the lower, and two on the ſides; they are all ſlender, oblong, and white; the noſtrils are in the middle, between the eyes and the mouth: the eyes are ſmall, and are ſituated on the ſides of the upper part of the head; their iris is white in the lower part, and of a duſky colour above: on each ſide of the head near the noſtrils, and below the anterior part of the eye, there ſtands a little bone of a whitiſh colour, bifid at the top, and prickly; the exterior point is ſhorter than the interior: the branchiæ are four on each ſide: their coverings are oblong, and are open ſideways only near the pectoral fins, not on the lower part: there are no perceptible teeth in the mouth, nor is there any diſtinctly viſible linea lateralis: the ſcales are roundiſh and very ſmall; they are ſo thin, and laid ſo cloſe on one another, that they are not viſible in the recent fiſh, but in the dried ſpecimens of it they are diſtinct enough: the back is of a duſky colour; the ſides are variegated with many whitiſh lines, and a number of very minute, black dots; the belly is white.

The pectoral fins are ſhort, and have each eight rays; the firſt of theſe is undivided; the ſecond, which is the largeſt of all, is bifid or ramoſe at the top, as are alſo all the others: the colour of the fin is white; there is one fin on the back, which is variegated with duſky ſpots; this has nine rays in it; the firſt is the largeſt and undivided, the reſt are bifid or ramoſe at their top; the belly fins are white, and have ſeven bones or rays each: the pinna ani ſtands a little behind that aperture; it has eight rays, the two laſt very ſmall and indiſtinct: the tail is ſhort, rounded at the extremity, and ſpotted with black; it has eighteen bones or rays: there is a little prominence in this ſpecies between the anus and the origin of the pinna ani.

The heart is ſmall, not exceeding a grain of hempſeed in ſize: the liver is long and red; it lies upon that part of the inteſtine, which performs the office of a ſtomach, and is joined to it by a membrane.

This lies in ſlow rivers, and ſometimes in lakes and ponds. Rondelet, Aldrovand, and others call it Cobitis aculeata; Willughby and Ray, Cobitis barbatula aculeata; Schonveldt, Tænia cornuta.

Cobitis cæruleſcens, lineis utrinque quinque nigris longitudinalibus.
The blue Cobitis, with five longitudinal black lines on each ſide.

The foſſile Muſtela.

This is a ſpecies very ſingular in it's manner of living, as well as in it's figure: it is five inches long, and ſomewhat more than half an inch in diameter: the head is ſhort, broad, and obtuſe; the belly is ſmooth, and of a bluiſh colour, with ten black longitudinal lines running down it, five on each ſide of the back: about the mouth there are placed a number of cirri or beards; they are not fewer than ten, and are whitiſh

and ſlender: the pectoral fins are ſhort, and have each eleven rays; the ventral fins have five rays, the dorſal ſeven, and the pinna ani ſeven.

It is frequent about the rivers and lakes in many parts of Germany; and, where the ſhores are ſandy, it will work it's way under the ſand to a great diſtance from the pond, and is there dug up by the people, who know how to diſtinguiſh the places by certain ſigns, and thus take numbers of them. It has been miſtaken, by moſt authors, for a ſpecies of the Muſtela; and, from this ſingular circumſtance of it's being dug out of the ſhores, has been called, by Geſner and others, Muſtela foſſilis. Jonſton calls it Piſcis foſſilis; and Schoneveldt, Pæcilia; the Germans call it Miſgurn or Fiſgurn.

CYPRINUS.

THE mouth of the Cyprinus is totally ſmooth; but within the fauces there ſtand, on the lower part, two hard and ſerrated bones, which ſerve in the place of teeth; and in the upper part of the fauces, overagainſt theſe, there is placed another bone, which is ſmooth. The air-bladder is conſtricted in the middle, as if it were tied with a thread; the branchioſtege membrane has three bones on each ſide.

The two jaws are in moſt ſpecies pretty exactly of the ſame length, but in ſome the upper one is a little longer than the lower.

Cyprinus iride, pinnis que ventris et ani plerumque rubentibus.
The Cyprinus, with the iris and the belly fins uſually red.

The Roach.

The general length of this fiſh, when full grown, is about nine inches, but there are waters in which it becomes conſiderably larger; it's more frequent ſize is from two to four inches: the head is ſmall, flatted on the upper part, and of a mixed olive and duſky colour: the back is ſomewhat ridged in the anterior part, and convex lower down; the belly is narrow and flat, except that the ſpace between the ventral fins and the anus is a little contracted: the opening of the mouth is ſmall; the jaws are both of the ſame length, but in the larger fiſh the upper, when the mouth is ſhut, appears a little longeſt: the iris of the eye is uſually red, but ſometimes it is yellowiſh, or of a ſilvery hue; but this principally in the young fiſh: there are five teeth ſituated within the fauces; the lateral line bends downward toward the belly: the ſcales are large, gloſſy, and placed in a regular, imbricated manner; they are of a ſilvery white on the ſides, but on the back they are of a duſkier colour.

The branchiæ are four on each ſide, and have each a double ſeries of very minute tubercles: there is only one fin on the back, and this has thirteen rays; the two firſt of theſe are undivided, the reſt ramoſe: the pectoral fins are whitiſh, and have each fifteen rays; the belly fins are red, but in the ſmall fiſh ſometimes yellowiſh; they have each nine rays: the pinna ani is alſo naturally red, but ſometimes yellowiſh; it has twelve or thirteen rays: the tail is of a pale colour, and is forked; it has nineteen rays: the vertebræ are forty-four.

It is frequent in all our freſh waters; our rivers, brooks, lakes, and ponds, all abound with it. Willughby and others call it Rutilus, or Rubellus fluviatilis; Schoneveldt, Rubellio and Rubiculus; Rondelitius, Phoxinus; the Germans, Rotang, Rotage, and Rotel; the Swedes, Mort.

Cyprinus iride, pinnis omnibus, caudaque rubris.
The Cyprinus, with the iris of the eye and all the fins and tail red.

The Sarfe.

This is a large ſpecies; it ſomewhat reſembles the roach, but it is narrower, in proportion to it's length: it is, when full grown, ten inches in length, and not more than three in breadth in the largeſt part: the head is ſmall and convex on the upper ſide; the opening of the mouth is ſmall; the teeth ſtand deep in the fauces, at the beginning of the ſtomach: the opercula of the gills and the lateral line are crooked, and run parallel with the belly: when the mouth is open, the lower jaw appears ſomewhat longer than the upper; but, when it is ſhut, they are found to be both of a length: the iris of the eye is of an orange ſcarlet; the branchiæ are four on each ſide,

and the cranium is of a duſky brown colour: the anterior part of the back is ridged, but not ſharp, and behind the fin it is alſo rounded or convex: the anterior part of the belly is flat, but between the ventral fins and the anus it is contracted into an edge: the ſcales are large, and of a beautiful ſilvery colour on the ſides, but they are of a duſky tinge on the back, and ſomewhat yellowiſh toward the belly: the tail and all the fins, except the pectoral ones, are red; the pectoral fins are brown, and have ſixteen rays; the ventral fins are as red as blood, and have ten, and ſometimes eleven, rays in each: there is only one fin on the back, and that is red on the upper part, but of a mixed, duſkiſh, and hoary colour below: the pinna ani is of a paler red than the others, but extreamly bright and beautiful; it has fourteen rays, ſometimes fifteen: the tail is forked, and of a bright red, and has, beſide the little extream rays, nineteen long and large ones: the vertebræ are thirty-ſeven in number; the long ribs fourteen or fifteen.

This is frequent in the rivers and lakes of Sweden and Denmark, and many other parts of Europe. Ray and Willughby call it Bramis affinis; others, Erythrophthalmus, or the Red Eye; the Swedes, Sarfe.

Cyprinus cirris quatuor oſſiculo tertio pinnarum dorſi et ani uncinulis armato.

The Cyprinus, with four beards, and with hooks on the third ray of the back fin.

The Carp.

The general length of a well grown fiſh of this ſpecies is about eleven inches; the head is of a duſky blue colour and gloſſy; the back riſes into a kind of ridge in it's anterior part; lower down it is more convex: the belly is all the way flat, and is conſiderably broad, and the body is rounder or thicker than in moſt others of this genus: when the mouth is ſhut, the upper jaw appears a little longer than the under, and both are tinged a little yellowiſh at the edges; the mouth is moderately large: there are, on the upper jaw, four cirri or beards, two on each ſide; the lower of theſe is the larger, and is ſituated at the end of the opening of the mouth; it grows to three quarters of an inch in length, and is of a yellowiſh colour; the upper cirrus is ſhorter and of a blackiſh hue: the pupil of the eye is round, and looks blue; and the iris is of a mixed ſilvery and gold colour: the coverings of the gills are ſtriated, and are of a yellowiſh colour.

The ſcales of this fiſh are large, and of an irregularly angular figure, pentangular, or quadrangular, or otherwiſe; thoſe which are ſituated in the middle of the ſides, and form the linea lateralis of the fiſh, have each of them a ſmall hole bored through them; the others have nothing of this: the ſcales all vary in colour, according to the age of the fiſh and other accidents; they are ſometimes of a ſilvery white alone; ſometimes they are yellowiſh, or greeniſh, or ſhaded with olive colour, or with black; they are placed in a regularly imbricated manner, and are very bright and gloſſy: the lateral line is ſtraight, and is nearer the back than the belly; the back fin is blackiſh; the ventral fins are of a pale colour, with a tinge of red, as are alſo the pectoral ones: the pinna ani and the tail are red, or of a mixed colour of reddiſh and blackiſh: the pectoral fins have each ſixteen rays, the ventral ones each nine; the back fin is long, and has twenty-four rays, and the pinna ani has nine: the tail is forked, and has nineteen long rays. The ſize that Carp will grow to in ſome places is ſurpriſing; they will live a long time out of water, which is owing to the coverings of the gills ſhutting very cloſe: the heart is of a roundiſh, but ſomewhat angulated, figure; the ſpleen is flatted and angulated; the ovaries are two, and are very large, as are alſo the veſiculæ ſeminales: the liver is divided into three lobes; the gall-bladder is large and blue, and has a duct running to the orifice of the ſtomach: the kidnies are two; they are laid cloſe to the back-bone, and have two manifeſt ureters running to the urinary bladder, which is ſituated cloſe to the extremity of the inteſtine.

The vertebræ of the Carp are thirty-ſeven, the ribs thirteen or fourteen.

The Greeks call the Carp Cyprinus and Cyprianus; and the Latin writers, in general, from them, Cyprinus. Some have called it Carpa, Carpo, and Carpera, and ſome Carpanus; Paulus Jovius calls it Rayna and Bulbarus.

Cyprinus pinnis omnibus nigreſcentibus, pinna ani oſſiculorum viginti ſeptem.

The Cyprinus, with all the fins black, and with twenty-ſeven rays in that of the tail.

The Bream.

This is a conſiderably large ſpecies, and is much broader, in proportion to it's length, than any of the others: a well-grown Bream is twelve or fourteen inches long, and the body is flat and thin, though very broad: the back is raiſed into a ſharp ridge in the anterior part, but lower down it is more rounded; the belly, in it's anterior part, is flat, but, from the ventral fins to the anus, it is contracted into a ſharp ridge: the head is ſhort, thick, and obtuſe: the mouth is to be opened by preſſing the lower jaw, and the upper is then ſeen coming, as it were, out of a caſe: when the mouth is ſhut, the upper jaw appears ſomewhat the longer; the mouth is roundiſh and ſmall; the eyes are round, and ſtand at the two ſides of the head: the pupil is round; the iris is uſually in general ſilvery, but it is ſometimes tinged in part with yellowiſh or red: the coverings of the gills are alſo of a ſilvery colour, mixed with ſome yellow, and ſome reddiſh: there are certain ducts or foramina, which form lines on each ſide above the noſtrils, as alſo on the lower jaw under the eyes: the branchiæ are four on each ſide, and each has a double ſeries of unguiform tubercles: the noſtrils ſtand nearer to the eyes than the extremity of the roſtrum; the teeth are five, and are ſituated in the fauces: the branchioſtege membrane and the lateral line are crooked, and nearer the belly than the back

The ſcales are large, and are placed in a regularly imbricated manner; they are of a ſilvery white on the belly, with ſome faint admixture of red, and on the ſides they are ſilvery, but with a tinge of yellowiſh or greeniſh; on the back they are of a duſky colour, but they have ſtill ſomewhat ſilvery even there; the opening of the mouth is large; in the full grown fiſh it will eaſily take in a man's thumb.

The fins are all of a blackiſh colour, with an admixture of greyiſh: the pectoral fins are greyiſh toward their origin, and black at the extremity; theſe have ſeventeen rays each: the ventral fins are alſo whitiſh juſt at the baſe, but black in every other part; they have each nine rays: the back fin is throughout of a greyiſh-black, and has fourteen rays; and the pinna ani is black throughout, and has twenty-ſeven rays: the tail is very forked; it is of a greyiſh-black, and has nineteen long rays; the vertebræ are twenty-four, and the long ribs are fifteen on each ſide.

It is very common in our freſh waters, particularly in large rivers. Aldrovand and Jonſton call it Cyprinus latus; Bellonius and Charleton, Abramus; others, Braſmus, Praſmus, and Breſma; the Germans are fond of it at their tables; we eſteem it a very poor and coarſe fiſh.

Cyprinus oblongus macrolepidotus, pinna ani oſſiculorum undecim.

The oblong Cyprinus, with large ſcales, and eleven rays in the pinna ani.

The Chub.

This is ſomewhat of the general figure of the carp, but narrower and thinner, in proportion to it's length: a well-grown fiſh of this ſpecies is a foot long: the head is large; the opening of the mouth wide; the upper jaw a little longer than the under: the ſcales are very large and beautiful, and are of an angular figure: the tail is forked; the back fin has nine rays; the pinna ani eleven: all the fins are bluiſh, and the iris of the eye is of a mixed ſilvery and yellow colour: the lateral lines run parallel with the belly.

It is common in our rivers, particularly in deep holes worn by the currents, and under the ſtumps of trees growing on the banks. Varro and Columella call it Squalus; Pliny, Squalius; the more modern writers, Cephalus and Capito, and Cephalus fluviatilis; ſome, Dobula; the Germans call it Alet.

Cyprinus

Cyprinus mucoſus totus purpuro-nigreſcens cauda æquali.
The purpliſh-black, mucous Cyprinus, with an even tail.

The Tench.

This ſometimes grows to an immoderately large ſize, but a moderately grown fiſh of it is ten or eleven inches in length; it's breadth, with this length, is about three inches, and it's thickneſs more than two: the head is ſmall, and the opening of the mouth, in the full grown ones, will admit the end of a man's finger: there are no teeth in the jaws, but there are five on each ſide deep within the fauces; the coverings of the gills are compoſed of four laminæ and three curvated bones; the lateral line is crooked, and runs near the belly; there are many little foramina, forming a kind of irregular lines, on the ſurface of the head: the eyes are ſmall, and their iris is red; the apertures of the gills are leſs open, than in the generality of theſe fiſh: the gills are four on each ſide, and each has a double ſeries of pectiniform nodi: the back riſes into a rounded form, and is not ridged, as in ſome of this genus; the belly is flat and broad: the ſcales are very ſmall, and are of an oblong figure; they adhere very cloſely to the body of the fiſh, and are on the back black, and on the ſides of a purpliſh, or ſometimes a yellowiſh, colour, mixed with black; the belly has a whitiſh tinge, but there is ſo much of the black diffuſed on every part of it, that the general colour is that: the ſcales of this fiſh are externally covered with a thick, mucous matter, ſo that the fiſh is ſlippery in the manner of an eel: the fins are all blackiſh, as is alſo the tail; the pectoral fins are roundiſh, and have ſeventeen rays; the belly fins are alſo rounded at the end, and have eleven rays; there is only one fin on the back, which has twelve rays, and the pinna ani has eleven: the tail is not forked but even, and has nineteen rays.

We have this in ſtanding foul waters, in large ditches and fenny ponds. The antients called it Phulon, Trulla, and Gnapheus; the moderns, Tinca and Tenca; and ſome of them, Phycis fluviatilis and Merula; the Germans, Schleg.

Cyprinus oblongus maxilla ſuperiore longiore, cirris quatuor, pinna ani oſſiculorum ſeptem.
The oblong Cyprinus, with the upper jaw longeſt, and with four beards.

The Barbel.

This is a large ſpecies, a moderately grown fiſh of it being near a foot in length: it is not ſo broad, in proportion to it's length, as the tench or carp, but rounder-bodied: the head is large, and the back part of it high, whence it ſlants off to the extremity, where it is ſharp; the upper jaw is longer than the under, and there are four white, fleſhy, ſlender beards: the eyes are moderately large; the back is elevated and ridged; the lateral line runs down the middle of the ſide; the belly is flat, and ſomewhat broad, and, when the fiſh is laid on it, the mouth touches the ground: the tail is forked.

It is frequent in our large rivers; we frequently catch it in the Thames of three or four pounds weight, but ſome are ſeven or eight pounds. The antient as well as modern writers have called it Barbus and Barbulus; ſome Barbo, Barbatulus, Mugil barbatus, Mullus fluviatilis, and Muſtus fluviatilis; the Germans call it a Barbe and Barble.

Cyprinus quincuncialis pinna ani oſſiculorum viginti.
The five-inch Cyprinus, with twenty rays in the pinna ani.

The Bleak.

This is one of the ſmaller ſpecies, but it is a very pretty fiſh; it rarely grows to a larger ſize than is expreſſed in it's name: the greater number caught are but three or four inches, and it is moderately broad, in proportion to it's length, but has not much thickneſs: the head is ſmall and ſomewhat acute; the mouth is moderately large, and, when it is open, the under jaw is ſomewhat longer than the upper: the eyes are large, and their iris is of a ſilvery white in the lower part, but in the upper there is ſomewhat of a yellowiſh tinge in it: the branchiæ are four on each, and the teeth are not placed in the jaws, but deep in the fauces: the ſcales are large, and placed in an

imbricated manner, but they adhere ſo cloſely, that they eaſily fall off on the ſides and belly; they are of the moſt beautiful ſilvery white, but on the back they have ſomewhat of a bluiſh tinge: the fins are all of a whitiſh colour; the pectoral ones are perfectly white, and have fourteen or fifteen rays; the belly fins are whitiſh, and have nine rays; the back fin is whitiſh, and has nine or ten rays; the pinna ani is alſo whitiſh, and has one and twenty rays; the tail is forked and whitiſh; the back is convex all the way; but the belly, between the ventral fins and the anus, is contracted into a ridge.

It is a very common fiſh in our rivers, and uſually is found in vaſt numbers together. Ray, Willughby, and the reſt call it Alburnus; Jonſton, Albula; and Schoneveldt, Albula minor; we call it the Bleak, and the Germans, Bleig and Weisfiſch.

Cyprinus quincuncialis maculoſus maxilla ſuperiore longiore, cirris duobus.

The ſmall, ſpotted Cyprinus, with the upper jaw longeſt, and with two beards.

The Gudgeon.

This is alſo a ſmall ſpecies; it rarely grows to more than four or five inches in length, and has leſs breadth with this length than any other ſpecies of this genus, the body being of a rounded form, and ſomewhat depreſſed: the head is large and depreſſed; the upper jaw is longer than the under; there is on each ſide a ſingle, oblong, white beard at the angle of the mouth: the eye is large, and the iris of a ſilvery colour, with ſome admixture of yellow: the back is all the way rounded and thick; the belly is flat; the anus is placed in the middle, between the belly fins and the pinna ani: the lateral line is black, almoſt ſtraight, and runs along the middle of the ſides: the ſcales are large; they are of a duſky colour on the back, and whitiſh on the belly and ſides; there are ſeven or eight large black ſpots running longitudinally along the middle of the back, from head to tail; on the ſides alſo, near the lateral lines, there run about nine large ſpots, of a blackiſh colour, but theſe, in ſome of the fiſh, are ſcarce viſible; and, beſide theſe, there are a great number of ſmaller black ſpots on the head, back, and ſides, and on the fins and tail: the back fin is ſmall, and has ten rays; the pectoral fins have each fifteen rays; the pinna ani is white, and has nine or ten rays; the tail is broad, and is a little forked; it has nineteen rays; the vertebræ are forty.

We have this in moſt of our ſhallow rivers, where the water is clear, and the bottom gravelly or ſandy. The antients call it Gobio and Gobius; the later writers, Gobius fluviatilis and Fundulus; ſome, Gobius non capitatus; the Germans call it Greſling and Grundling; the French, Gonion and Vairon.

Cyprinus admodum latus et tenuis pinna ani officulorum quadraginta.

The broad and thin Cyprinus, with forty bones in the pinna ani.

The Lake Bleak.

This is a very ſingular ſpecies; it grows to ſix or ſeven inches in length, and is of a depreſſed form, very broad and thin: the head is very ſmall and flatted; the ſkull is of a yellowiſh brown colour, and is bright, and in ſome degree pellucid: the eyes are large, and the iris of a ſilvery colour, except that in the upper part, over the pupil, it is yellowiſh: the ſcales are very ſmall, and all of them of a ſilvery colour, and all the fins are whitiſh: the pectoral fins have ſixteen rays each; the belly fins have each nine or ten; the back fin has ten or eleven: the pinna ani is large and broad, and has forty, and ſometimes forty-one, rays; the tail is very forked, and has nineteen rays.

This ſpecies is frequent in the lakes of Germany, and ſome others parts of Europe, and though as unlike the bleak, as two fiſh of the ſame genus can eaſily be to one another, it has been confounded by many with it. Ariſtotle and the other Greek writers call it Baleros, and from them Rondeletius, Jonſton, and others, Ballerus; ſome Bullerus, and others Blicca and Pleſtya; the Germans call it Blick and Houerk; and the French, Bordeliere. We have it not in England, though it is, in a manner, univerſal in other parts of Europe.

Cyprinus

Cyprinus pinna dorſi oſſiculorum viginti, linea laterali recta.
The Cyprinus, with twenty rays in the back fin, and the lateral line ſtraight.

The Charax.

This is one of the ſhort and broad Cyprini; it frequently grows to eight or nine inches in length, ſometimes to conſiderably more: the head is broad and ſhort; the opening of the mouth is ſmall; the end of a man's little finger can hardly be introduced into it in the full-grown fiſh: the body is depreſſed, but it is conſiderably thick, not thin as in the blicca; the upper and under jaw are of the ſame length; there are four or more teeth on each ſide deep on the fauces, but none in the jaws: the eyes are ſmall; their iris is of a duſky yellow, and there are ſome black ſpots in them: the back is elevated, and from the head to the back fin it is ridged: the belly in general is flat, but the ſpace between the belly fins and the anus is ſomewhat edged: the branchiæ are four on each ſide; the lateral line is nearly ſtraight, and ſtands in the middle of the ſides: the ſcales are large and beautiful; they are placed in an imbricated order, and are of a fine gold yellow on the ſides, but of a ſomewhat duſkier tinge on the back; the fins are all red.

It is very frequent in the large lakes of Germany, and ſome other parts of Europe, but we have it not in England. The Greeks call it Charax, and ſome of the Latins have borrowed the ſame name; ſome have called it Caraſſius, and others Caraſus and Karaſs; Willughby and Geſner call it Caraſſius ſimpliciter dictus, ſive Caraſſii tertium genus; the Germans call it Karayſche; and the Swedes and Danes, Ruda.

Cyprinus roſtro naſiformi prominente, pinna ani oſſiculorum quatuordecim.
The Cyprinus, with a naſiform ſnout, and fourteen rays in the pinna ani.

The Naſus.

This ſpecies in figure very much reſembles the common dace or dare, and grows uſually to about the ſame ſize, though ſometimes conſiderably larger: the head is moderately large, and of a ſingular figure, broad at the top, but running out into a kind of noſe at the end: the body is rounded, and the back convex; the belly is flat and broad: the ſcales are large and beautiful; the lateral line runs near the belly; the fins of the under part of the body have all a tinge of reddiſh.

It is frequent in the lakes of Germany, and many other parts of Europe. Geſner, Aldrovand, and others call it ſimply Naſus; others, Naſus fluviatilis, and Naſus Alberti; the Italians call it Savetta; and the Germans, Naſe and Naſen.

Cyprinus cobitalis pinna ani oſſiculorum quatuordecim.
The large Cyprinus, with fourteen rays in the pinna ani.

The blue Chub.

This is a very handſome and bright-looking fiſh; the head is large, ſmooth, gloſſy, and of a deep olive colour, with a tinge of purpliſh: the mouth is ſmall, and the eyes are large and bright; the body is of a rounded form; the ſcales are very large, and ſtand in an imbricated manner; the colour is a ſilvery white, with a conſiderable tinge of a purpliſh blue, more conſpicuous on the back than in any other part: the fins are of a pale colour, and the tail is forked.

It is very frequent in the rivers of moſt parts of Europe. Geſner and Willughby call it Capito cæruleus; others, Cephalus fluviatilis cæruleus; others, Leſus and Jeſus; The Germans, Scheert and Koppen.

Cyprinus magnus craſſus argenteus.
The great, ſilvery, thick Cyprinus.

The Corvus piſcis.

This is one of the largeſt of the Cyprini; it grows to two feet in length, and is a remarkably ſtrong and lively fiſh: the head is broad and ſhort, and the noſe obtuſe; the eyes are large; the back is elevated and convex, and the body is rounded, not flat; it's diameter is about a fifth part of it's length: the ſcales are large; they are placed in an

an imbricated manner, and are of a fine ſilvery brightneſs, but with an admixture of yellowiſh: the fins are of a pale colour, and the tail is forked.

It is frequent in the rivers of many parts of Europe; it loves deep water. Geſner and Aldrovand call it the Capitò rapax, and Capito fluviatilis rapax; Schoneveldt calls it ſimply Rapax; and many, Corvus Piſcis.

Cyprinus novem digitorum corpore, longiore pinna ani radiorum decem.
The ſmall, long-bodied Cyprinus, with ten rays in the pinna ani.

The Dace.

This is the ſlendereſt and moſt rounded in the body of all the Cyprini, and is a very clean and pretty fiſh: it's uſual length is about ſix or ſeven inches, though it will grow much larger: the head is moderately large, and of a duſky olive colour; the eyes are large, and the iris ſilvery; the mouth is ſmall: there are no teeth in the jaws, but a few deep in the fauces: the ſcales are large, and elegantly arranged in an imbricated manner; the fins are of a pale colour.

It is frequent in our ſwift and clear rivers and brooks. Ray, Willughby, &c. call it Leuciſcus; Rondeletius and Geſner, Leuciſci ſecunda ſpecies; others, Albicilla and Albicula.

Cyprinus roſtro acuto, oculis magnis.
The Cyprinus, with large eyes, and an acute roſtrum.

The Albus Piſcis.

This is alſo one of the rounder-bodied ſpecies; the head is large and broad at the baſe, but the extremity terminates in a ſharp ſnout: the eyes are remarkably large, and the opening of the mouth is ſmall; the back is convex; the fins are all of them of a duſky blackiſh colour; the ſcales are large and perfectly white: it is frequently caught of a foot or fourteen inches in length, and ſometimes, though rarely, grows to more than two feet: it's fleſh is very white, but is the worſt taſted of that of all the Cyprini.

It is caught in ſome of the lakes of Italy, and in ſtanding waters in many other parts of Europe. Salvian calls it Alburnus and Albus Piſcis.

Theſe are the more remarkable ſpecies of the large genus of the Cyprinus: the others are, 1. The oblong Cyprinus, reſembling the roach in figure, with ten rays in the pinna ani; this is called the Greſling and Griſlagine. 2. The large, ſmall-mouthed, and ſmall-eyed Cyprinus, called the Vrow-fiſh. 3. The yellowiſh Cyprinus, with red fins, called the Rud and the Finſcale by us, and by authors, Orfus fluviatilis: this is common in our rivers, and reſembles the roach, but that it is broader; ſome of the Latin writers have called it Rutilus and Rubellio; and others, Capito ruber and Capito ſubruber. 4. The anadromous Cyprinus, called by the Italians the Zerte and the Blicke; this, at certain times of the year, goes into the ſea, but it breeds in rivers. 5. The Cyprinus, called by authors the Sargus, and by ſome the the Leuciſcus prior Rondeletii: this is common in the markets at Rome, and is there called Laſcha; the French call it Gardon. 6. The Cyprinus, called the leſſer Squalus by authors, and by the Germans the Haſle, or Haſſelar. 7. The little, brook Gudgeon, called by the Germans the Wapper. 8. The common, little Cyprinus, known by the name of the Minim, or Minow. 9. The ſomewhat larger, ſcaly Minow. 10. The large Cyprinus, called by Salvian Picus, or Pigho. 11. The ſmall Cyprinus, with five and twenty rays in the pinna ani, called, by the Swedes, Biork and Biorkfiſch. 12. The two-inch Cyprinus, with red eyes, and with nine rays in the pinna ani. 13. The yellow-eyed Cyprinus, with the tail and the belly fins red, called by the Swedes Id. 14. The Cyprinus, with the lower jaw longeſt, and elevated at the ſummit, and with fifteen rays in the back fin; this is called by the Swedes Aſp. 15. The acute-noſed Cyprinus, with a ridged back, and with twenty-four rays in the pinna ani, called by the Swedes the Aſp. 16. The three-inch Cyprinus, with a broad, orbicular body and very large ſcales, called by Geſner and Bellonius the Bubulca.

CLUPEA.

THE belly of the Clupea is remarkably acute, or is formed of ſuch a peculiar arrangement of the ſcales, that it appears ſerrated: the back fin is ſomewhat nearer the head than the ventral or belly fins are, and the branchioſtege membrane contains eight bones.

This genus comprehends the herring, ſprat, anchovy, &c.

Clupea maxilla inferiore longiore maculis nigris carens.
The Clupea, with the lower jaw longeſt, and without any black ſpots.

The Herring.

This is the common herring, eaten under various forms at our tables: it may ſeem needleſs to ſome to enter into the particulars of the deſcription of a fiſh ſo well known; but the moſt vulgarly known things are often the leaſt underſtood, and I am apt to believe there are very few who diſtinguiſh this fiſh properly from the others of the ſame genus. It is very often confounded with the ſhad and pilchard; and moſt people ſuppoſe ſo diſtinct a ſpecies as the ſprat to be only a herring not yet grown to it's ſize.

The length of the herring is from five to eight inches, it's breadth little more than an inch; it's head is compreſſed, and ſomewhat acute in the anterior part, and the upper part of it is hollowed: the mouth is very large; in the opening of it the roſtrum is a little elevated, and the maxillary bone of the upper jaw, which covers the lower on each ſide, is protruded a great way forward: the noſtrils are very conſpicuous; they have a double aperture, but the anterior one is very ſmall; they ſtand nearer to the extremity of the roſtrum than to the eyes: the eyes are large, and the iris is ſilvery.

In the extremity of the lower jaw there are ſome very ſmall teeth, and in the upper one others ſo very minute, that they may be eaſily overlooked, unleſs on a careful inſpection; the lateral bone of the upper jaw, which covers the other on each ſide, is lightly ſerrated at the edge: in the middle of the anterior part of the palate there is a large area, beſet with teeth in two ſeries, running longitudinally; and, finally, the tongue, which is acute and looſe on the lower part, and is of a blackiſh colour, is armed with a great number of teeth directed inwards: there is uſually an elegant red, or violet-coloured ſpot, on each ſide, at the extremity of the coverings of the gills; theſe coverings are, excepting for this ſpot, throughout of a ſilvery colour, and are compoſed of three or four bony laminæ, and eight oſſicles, ſomewhat arcuated in figure, and connected by a membrane.

The lateral line runs ſtraight, and near the back, but it is not very conſpicuous: the ſcales are very large, and of a ſilvery white; they are placed in an imbricated manner, but they are very looſely fixed, and eaſily fall off: the back is of a duſky bluiſh colour, and is more blue in ſpring than at other times; the ſides and the belly are of a ſilvery white: the whole belly, from the gills to the anus, is rough, and is contracted into an edge; the back is rounded or convex; the fin on the back ſtands near the middle, and is of a whitiſh colour; it has nineteen rays; the pectoral fins are whitiſh, and ſtand low; they have each eighteen rays; the ventral fins are very ſmall and white; the pinna ani is near the tail, and has eighteen rays; the tail is of a greyiſh colour, forked, and furniſhed with eighteen rays.

The heart is of a ſquare figure; the liver is ſmall and angular; the ſtomach is, as it were, double; the air-bladder is long, ſlender, and protended all along the abdomen, and is ſimple: the ribs are thirty-five on a ſide.

It is extreamly common in our ſeas, whence great part of Europe has been long ſupplied. It was known from the earlieſt times; Ariſtotle and the other Greeks call it χαλκὶς, Chalcis; Pliny borrows the ſame name; Bellonius calls it Chacidis ſpecies, Gaza, Erica, and Orica; others, Alec and Halec; Paulus Jovius, Aringa; and many, Harengus; the Swedes call it Sill, and the Germans, like us, Herring.

It varies in ſize, being ſmaller in ſome ſeas than in others: the ſmaller kind has been diſtinguiſhed by the Greeks under the name of Ara; and, by Bellonius, under that of Celerinus; others call it Membras; and ſome Strommingus, or Stromlingus, from the Swediſh, Stromming.

Clupea minor maxilla inferiore longiore, ventre acutiſſimo.
The little Clupea, with the lower jaw longeſt, and the belly very acute.

The Sprat.

The ſprat has been very generally, but erroneouſly, ſuppoſed a herring, not grown to it's full ſize: the length is about four or five inches, the breadth ſomewhat more, in proportion, than in the herring, and the thickneſs of the back proportionably alſo leſs: the head is compreſſed; the eyes are large, and the iris a ſilvery white, but ſometimes tinged with red; there is a ſpot on each ſide, near the extremity of the coverings of the gills, and no other on any other part of the body: the back fin has ſeventeen rays; the pectoral fins have alſo each ſeventeen rays; the ventral ones have ſix or ſeven each, and the pinna ani has nineteen.

The belly, from the gills to the pinna ani, is of an extreamly acute figure, much more ſo than in the herring; and the points of the ſcales of the ſame ſize, in the ſprat and herring, are very different in figure, thoſe of the ſprat being very acute, whereas thoſe of the herring are obtuſe: the ſpurious ribs in the ſprat are nine on each ſide, the vertebræ are forty-eight; we find that number in the ſmalleſt, and no more in the largeſt.

This is very frequent alſo in our ſeas, and is brought in ſurpriſing quantities to London.

Clupea apice maxillæ ſuperioris bifido, maculis nigris utrinque.
The Clupea, with the upper jaw bifid at the extremity, and ſpotted with black.

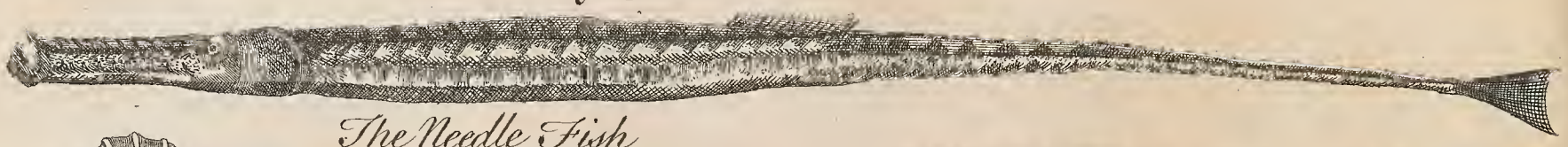
The Shad, or mother of the Herrings.

This very conſiderably reſembles the common herring in many particulars, but it is ſufficiently diſtinct from it in others: the head is compreſſed, and ſomewhat hollowed at the top; the eyes are large, and their iris of a ſilvery white; the opening of the mouth is large, and is furniſhed with a great number of ſmall but ſharp teeth: the lower jaw is a little longer than the upper, and the upper jaw is bifid or forked at the extremity, but the diviſion is not deep: on each ſide, below the coverings of the gills, and near the back, there is a large roundiſh black ſpot; and from this there run in a ſtraight line toward the tail, and a little above the lateral line, four, five, or ſix other ſmaller ſpots: the lateral line is ſtraight, but it is not very conſpicuous; the back is of a mixed, bluiſh, greeniſh, and ſilvery colour; the upper part of the head has a caſt of yellowiſh, and the reſt of the body is of a fine ſilvery white: the ſcales are very large; they are roundiſh, ſoft, and looſely faſtened, ſo that a little touch takes them off: the ſcales of the belly, from the gills to the anus, are robuſt, and, as it were, prickly; they are from thirty-five to thirty-ſeven in number, and are of a very ſingular figure; they are continued from the ſides into a long point, and on the lower part, both on the fore and hinder ſides, they are terminated by a ſhort ſpine or prickle; the poſterior ſpine is the ſhorter of the two, and forms the ſerrated and prickly carina of the belly: all the fins, except that of the back, are whitiſh; the pectoral ones have fourteen or fifteen bones or rays; the ventral ones nine; the dorſal one eighteen or nineteen; the pinna ani has twenty-two or twenty-three: the tail is very forked, and has nineteen rays; and, at the baſe of each of the pectoral and ventral fins, there is a ſingular, oblong, large ſcale.

The body is broader and thinner, in proportion to it's length, than in the common herring; the back is rounded, and the length of the fiſh is more than equal to four times it's breadth.

We have this in our ſeas; and in May, and the beginning of June, it makes it's way up rivers in vaſt abundance. It was well known to the antients: The Greeks called it Θρίσσα, Thriſſa; and the Latins, Triſſa and Alauſa; Bellonius calls it Trichis and Pulchella; Salvian and others, Aloſa; Charleton, Aloſa major; and Bellonius, Aloſa minor; others call it Aloſa fluviatilis and Clupea; Albertus, Ariſtotus, and Paulus Jovius, Laccia. When of different ſizes and growth, it has been deſcribed by authors alſo under two or three other names; Salvian calls it Agone and Acone; Charleton, Sarachus and Sarachinus; and the Harengus minor and the Sardina of authors are only

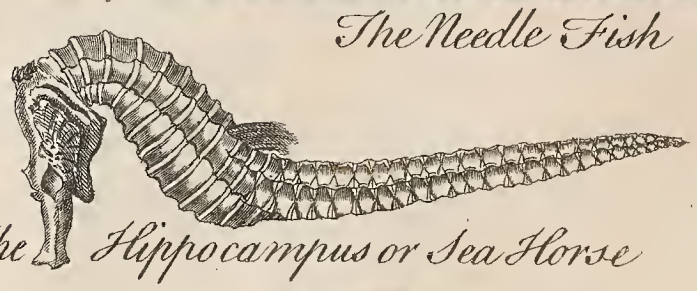
Syngnathi



The Needle Fish



The lesser Needle Fish



The Hippocampus or Sea Horse

Cobitis



The Bearded Loache

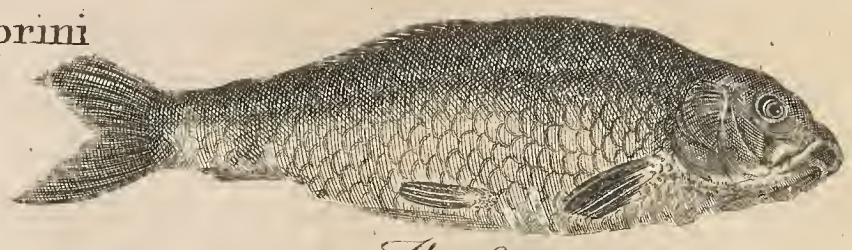


The Loache



The Gudgeon

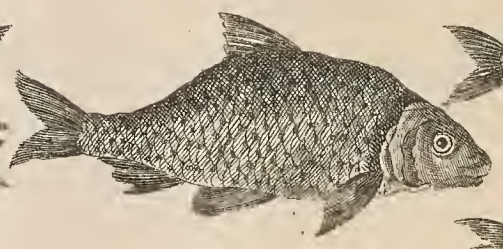
Cyprini



The Carp



The Rudd



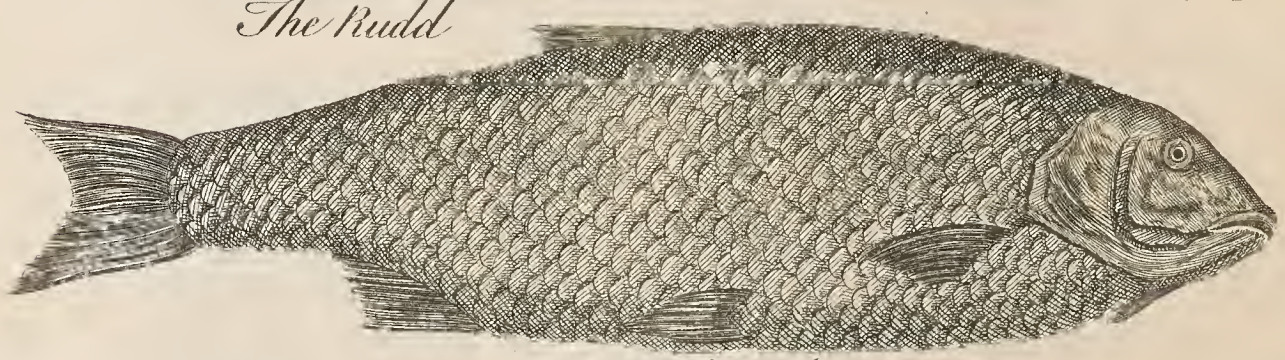
The Bream



The Chub



The Lake Bleak



The Sarfe



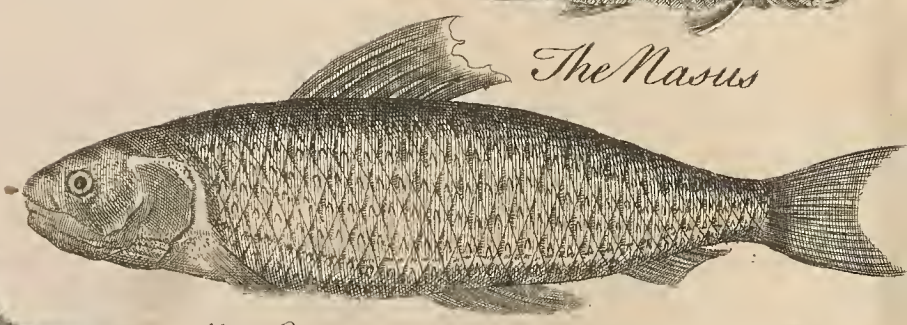
The Roach



The Nasus



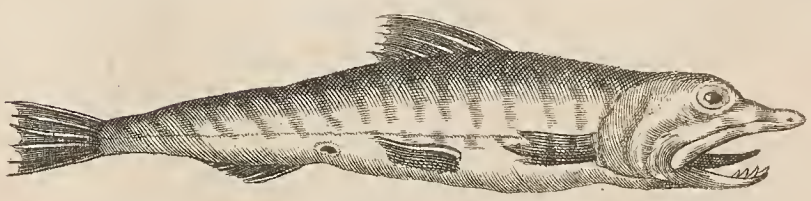
The Squalus of Saluian



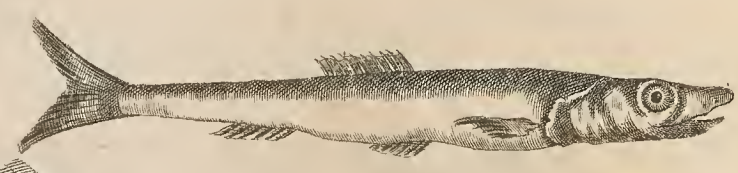
The Cyprinus Clavatus or Pisee Pigo



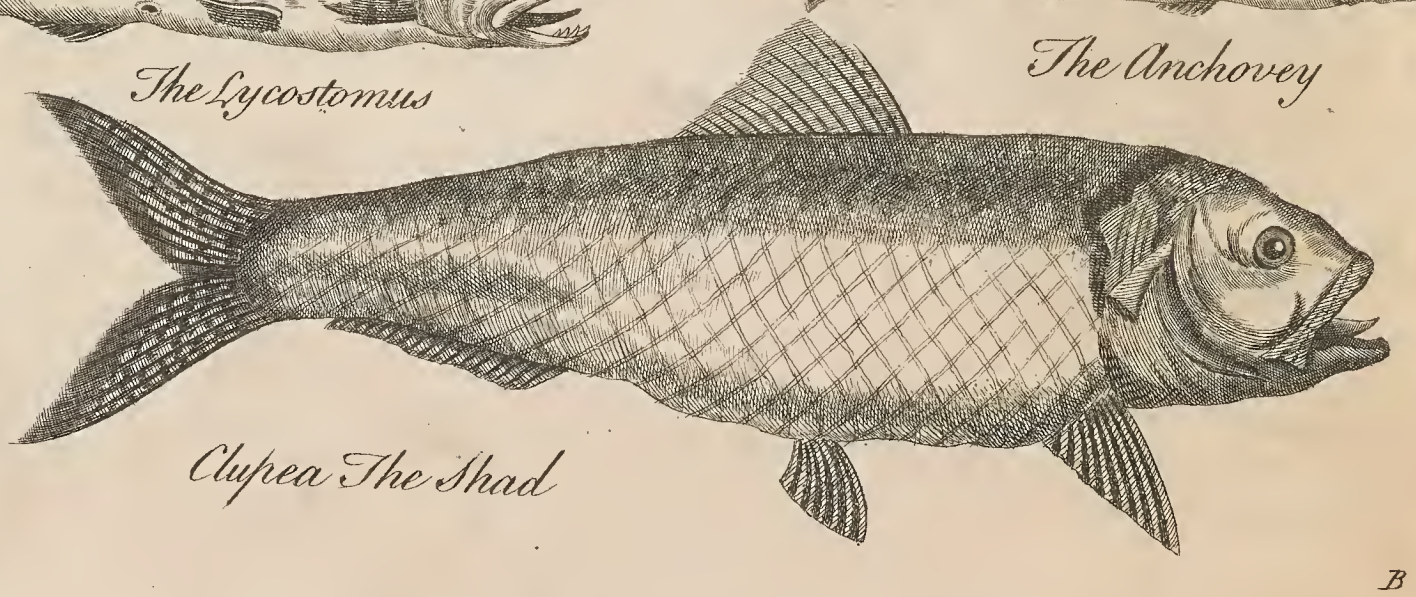
The Pilchard



The Lycostomus



The Anchovey



Clupea The Shad

B. Cole Sculp.

only names for it, under the different circumſtances of growth and other particulars, the ſpecies ſtill the ſame.

Clupea maxilla ſuperiore longiore.
The Clupea, with the upper jaw longeſt.

The Anchovy.

This, in many reſpects, ſo much reſembles the common ſprat, that it is not a wonder that fiſh is often pickled and ſold under it's name, among people not much acquainted with ſuch things: the head is ſmall and compreſſed, broad at the hinder part, and pointed at the extremity; the upper jaw is longeſt, in which it is different from all the other Clupeæ: the opening of the mouth is very large, and the teeth numerous and minute: the back is convex; the body is thin, and tolerably broad, in proportion to it's length; the tail is forked; the fins are of a duſky browniſh-white; the back is of a mixed bluiſh and brown, and the ſides and belly are white; the vertebræ are forty-five or forty-ſix.

It is frequent in many of the European Seas, and is imported in great quantities in pickle among us. It has been known at all times to the writers on theſe ſubjects. Ariſtotle and Athenæus call it Ἐνγραύλῳ, and Ἐνγραύλεις; Ælian, Ἐνκραβίκολῳ, and Ælian, Λυκόστομῳ. From theſe the Latins have called it Engraulus, Engraulis, Encraſicholus, and Lycoſtomus; ſome have called it Halecula, a name given by others to the ſprat.

ARGENTINA.

THE body of the Argentina is oblong, and of a rounded, not flatted, figure, and there are teeth in the palate, and on the tongue.

Of this genus there is but one known ſpecies.

ARGENTINA.

The Argentina is a ſmall fiſh; it's head is oblong, and the roſtrum long and ſmall; the opening of the mouth is moderately large, and there are ſix or eight ſharp teeth on the tip of the tongue, and in the palate: the body is of a rounded figure, and is oblong and ſlender; the whole is of an elegant, ſilvery colour, except the back, which is of a duſky brown, with a tinge of bluiſh and of olive colour: the eyes are large, and their iris of a ſilvery colour: there is a fin on the middle of the back, conſiſting of ten rays: the pectoral fins have fourteen rays, the ventral ones eleven; theſe are placed over-againſt the back fin: the pinna ani has nine rays; the tail is forked; the anus is placed very near the tail; the ſtomach is black, and the air-bladder is conic at each end, and is of a beautiful, bright, ſilvery white.

It is caught in great abundance in the Mediterranean, and is brought to market at Rome. Rondeletius and Geſner call it Sphyræna parva, and Sphyrænæ ſecunda ſpecies; Willughby, Piſciculus Romæ Argentina dictus; the French call it Hautin.

EXOCÆTUS.

THE pectoral fins of the Exocætus are very long; there is but one fin on the back, which is ſituated very backward: the ſcales are very large; the branchioſtege membrane on each ſide contains ten officles; three of theſe are broad, and hid by the coverings of the gills; they are not eaſily numbered with exactneſs.

Of this genus alſo there is but one known ſpecies.

EXOCÆTUS.

The Flying-fiſh.

The head is very flat on the upper part, but is ſomewhat compreſſed toward the hinder extremity; the anterior part, however, is more depreſſed, and the whole is not large, not equalling the middle of the body in diameter: the body is oblong, approaching to a rounded figure, but ſomewhat compreſſed: the back is broad, and all the way flat; the belly alſo is flat in the anterior part, but toward the tail it is convex: the anus is placed very near the tail; the extremity of the roſtrum is ſomewhat acute, and the opening

opening of the mouth is not large: the lower jaw, when the mouth is open, appears ſomewhat longer than the upper; the noſtrils are large, and ſtand nearer to the eyes than to the extremity of the roſtrum; there is a kind of appendage in the middle, which makes each ſeem as if formed of two apertures: the eyes are very large and round; their iris is of a ſilvery colour, and the pupil is round: the apertures of the gills are not large; there is in each jaw a ſingle row of very minute teeth; thoſe on the under jaw in particular are ſo very ſmall, that they are ſcarce viſible: the ſcales are large, hard, ſmooth, and whitiſh; they are, in general, of a ſemicircular, ſome of a ſomewhat angulated, figure, and toward the baſe or anterior part they have three, four, or more, large ſtriæ; they ſtand thick together, and, as it were, in ſtraight rows: the colour on the back is a duſky brown; the belly and ſides are of a fine ſilvery white; there is no lateral line in the accuſtomed place on the ſides, but in the lower part of the body, at the ſides of the belly, there run two genuine lines formed of ſcales, perforated in their center, and, in all reſpects but the place, anſwering to the characters of the lateral lines in other fiſhes.

The pectoral fins, in this fiſh, are extreamly ſingular; they are ſituated juſt below the extremity of the covering of the gills on the ſides, but elevated toward the back; they are not affixed horizontally, but in an inclined plane at the baſe, and are ſo long, that they equal the whole body of the fiſh, reaching to the beginning of the tail; they are not very broad, and each of them has ſeventeen nodoſe rays, ramoſe at the ends: the membrane which connects theſe, and forms the fin, is ſmooth on the upper ſide, but underneath there are hollows between the ſeveral rays: the ventral fins are ſituated on the lower part of the belly, not far from the anus; they are of an oblong figure, white, and ſtand at a great diſtance from one another; each of theſe has ſix rays, all of them ramoſe at the extremity: the pinna ani is white and ſmall; it has eleven ſhort and ſoft rays: the dorſal fin is not large, and is ſituated toward the hinder part of the body; it is whitiſh in colour, and has eleven ſhort and ſoft rays: the tail is very forked, and has fifteen long rays: the branchiæ are four on each ſide, and are formed as thoſe of the pearch, each having a double row of tuberculous and ſomewhat rough apophyſes.

It is caught in the Mediterranean, and ſome other ſeas. The antient Greeks called it Ἐξωκοίτῳ and Ἀδονὶς, Exocætus and Adonis; and the Latins borrowed both theſe names from them: ſome have called it Exochinos, and other Mugil alatus and Hirundo piſcis; ſome have thought the Hirundo piſcis and the Exocætus different, but without reaſon; the Italians call it Peſce Rondine; and Salvian take great pains to prove, that it was the Χελιδὼν, Chelidon, of the antient Greeks.

The uſe it makes of it's pectoral fins is very ſingular; they ſerve it for flying, but this only in a limited manner; the fiſh has a power of throwing itſelf into the air from the ſurface of the water, and, when it is there, it ſuſpends itſelf, and moves forward very nimbly by the motion of theſe fins, which ſerve it as wings; but when they become dry, as they ſoon do in the air, they are unfit for any farther ſervice of this kind, and the creature drops into the water again. It finds a means to eſcape the purſuit of ſome larger fiſh, by means of theſe wings; but this often expoſes it to new danger, for, when in the air, it becomes the prey of the ſea-birds.

COREGONUS.

THE dorſal fin of the Coregonus is placed nearer the head than the ventral ones are: the teeth are very ſmall; in many ſpecies they are ſo remarkably ſo, that they are hardly viſible: the branchioſtege membrane on each ſide has ſeven, eight, nine, or ten bones in it.

Coregonus edentulus maxilla inferiore longiore.
The Coregonus, with no viſible teeth, and with the lower jaw longeſt.

The head is oblong, ſomewhat acute and compreſſed, and in the upper part is ſomewhat pellucid: the eyes are large, and their iris is of a ſilvery colour: the lateral line is ſtraight, and is nearer the back than the belly; the ſcales are moderately large, and of a ſilvery colour; they are oblong, ſmooth, and but ſlightly affixed to the body: the back is all the way convex; the belly is flat from the place of the pectoral to that of the ventral

tral fins, but from the ventral fins it is convex; both the jaws are wholly without teeth, nor are there any on the palate, but the tongue has a number of very minute ones on it: theſe are to be felt at all times, but they are ſcarce diſtinguiſhable to the ſight in the recent fiſh, though, when dried, they appear ſufficiently plain: the lower jaw is ſubacute, and is protended a little beyond the other; the mouth is conſiderably large; the top of a finger may be introduced into that of a full-grown fiſh, without difficulty. The branchioſtege membrane has ſeven, or ſometimes only ſix, bones, and they are of a ſomewhat broad figure: the ſcales are of a roundiſh figure, but ſomewhat oblong, and are placed in an imbricated manner; they are but looſely fixed, and fall off on the ſlighteſt touch: the back of the fiſh is ſomewhat bluiſh; the whole body beſide is of a fine ſilvery white: the back fin is of a greyiſh colour, and has thirteen or fourteen rays; the pectoral fins are whitiſh, but ſomewhat black at the extremities; they have each ſixteen rays; the belly fins are white, and have each twelve rays; the pinna ani is whitiſh, and has fifteen; the tail is forked, and has nineteen long rays.

This ſpecies is frequent in the lakes and other large waters in Germany, Sweden, and many other parts of Europe, but we have it not in England. Ray, Willughby, Geſner, and the other writers on fiſhes call it Albula minima; the Germans call it Stint; and the Swedes, Sikloja, Blicea, and Mockin.

Coregonus maxilla ſuperiore longiore, plana, pinna dorſi oſſiculorum quatuordecim.

The Coregonus, with the upper jaw longeſt and plane, and with fourteen rays in the dorſal fin.

This is a fiſh that varies very conſiderably in it's ſize, and ſome other particulars, under the different circumſtances of growth and place, and has been thence deſcribed four or five times over, by moſt of the Ichthyologiſts, under as many diſtinct names. It's general length, when moderately grown, is about ten inches; the body is oblong and narrow, in proportion to this length; the head is ſubacute and compreſſed, and is ſomewhat pellucid in the upper part; the roſtrum is ſomewhat acute, and is a little prominent beyond the lower jaw: the back, from the head to the fin, is ſomewhat plane, but from that part to the tail it is much flatter, and ſomewhat broad: the belly is flat and broad all the way, from the gills to the tail; the lower jaw is ſmaller than the upper, and, when the mouth is ſhut, is covered by it: the opening of the mouth is ſmall; the rim of the lower jaw, and the whole palate, are ſmooth, or without teeth, but there are ſome teeth on the verge of the upper jaw; there is but a ſingle ſeries of theſe, and they are all ſlender and but ſoft: the tongue alſo is furniſhed with a vaſt number of very minute teeth, and the fauces are alſo armed with ſmall ones, both above and below, to the extremity of the ſmaller gill: the noſtrils ſtand in the mid way between the eyes and the extremity of the roſtrum; they have each two apertures, the anterior ſmaller and round, the poſterior larger and oblong: the eyes are large; the pupil is bluiſh, and of an ovato-acute figure; the iris is ſilvery: the coverings of the gills are of a ſilvery colour, with an admixture of yellow; they conſiſt of four laminæ, and of eight or nine broad officles, connected by a membrane; the lateral line is ſtraight, and runs nearer the back than the belly of the fiſh: the ſcales are moderately large; they have ſomewhat of a bluiſh-grey tinge on the back; in all the reſt of the body they are of a ſilvery white; there are none on the head or coverings of the gills: there are two fins on the back; the firſt is of a greyiſh-black, and has fourteen rays; the hinder one is only a membrane, and has no rays to ſupport it: the pectoral fins are of a greyiſh-white, but black at the tips; they have each ſixteen rays: the belly fins are of a whitiſh colour, but bluiſh at the extremities, and have each twelve rays: the pinna ani is whitiſh at the baſe, and black in the other part, and has ſeventeen rays: the tail is forked, and has twenty long rays.

This ſpecies is frequent in the Baltic, and other of the Northern Seas, and about the mouth of large rivers; it's fleſh is very white and well-taſted. Authors have called it by the ſeveral names of Lavaretus, Albula nobilis, Bezola, and Albula cærulea, Albula parva, and Albula lacuſtris and farra; under theſe names they have, in general, deſcribed it five times over, as of ſo many diſtinct ſpecies.

Coregonus maxilla ſuperiore longiore, pinna dorſi oſſiculorum viginti trium.
The Coregonus, with the upper jaw the longeſt, and twenty-three rays in the back fin.

The Grayling, or Umber.

This is a large and handſome fiſh; it's general length, when moderately grown, is ſomewhat more than a foot: it's body is but narrow, in proportion to this length, but it is moderately thick: the head is depreſſed, and is plane at the top, and acute at the end: the back is convex, and in the anterior part is ſomewhat acute; and the belly, from the gills to the pectoral fins, is plane; the teeth are ſhort, but they are ſharp; thoſe in the upper jaw are longer than any of the other; they are of a ſomewhat conic figure, and there is only one ſeries of them; in the lower jaw alſo there are only one ſeries, and theſe very ſmall; in the anterior part of the palate, at the ſides, there are a number of very minute teeth placed in a right line: in the very apex of the palate there is a little area, of a roundiſh figure, which is covered with minute teeth; and, finally, there are two other ſmall areolæ in the fauces, covered in the ſame manner with teeth: the tongue is ſmooth; the upper jaw is ſomewhat longer than the under, and the opening of the mouth is large: the noſtrils have each two foramina, and there are ſome ducts viſible on the head above the eyes: the iris of the eye is of various colours, a ſilvery white, a blackiſh and greeniſh: the pupil is of a bluiſh-black, and of an oval figure, but pointed on the anterior part: the branchioſtege membrane on each ſide has ten flat and ſomewhat broad officles: the lateral line is ſtraight, and is ſituated ſomewhat nearer to the belly than to the back: the ſcales are large and beautiful; they are of a ſemicircular figure, and adhere very firmly; they are hard and ſtrong: on the belly they are of a whitiſh colour on the ſides; they are of a ſilvery white, with a tinge of green, and on the back they are of a duſky grey; they are not placed in the uſual, ſimple, imbricated manner, but they run in ſtraight lines, and form about twenty ſuch; the very tail has ſmall ſcales on it, of the ſame figure with the others, but ſofter and not adhering ſo firmly: the back fin is large; it ſtands nearer to the head than to the tail, and has twenty-three rays: the membrane which connects theſe is blackiſh, but it is ſpotted and ſtreaked with red, and toward the hinder part is variegated often with greeniſh; there is, beſide this, on the extremity of the back, a kind of pinniform, membranaceous appendage, but without rays: the pectoral fins are brown, and have each ſixteen rays; the belly fins are reddiſh, and have each twelve rays; the pinna ani is alſo reddiſh, and has fourteen rays; the tail is forked, and ſomewhat reddiſh, and has nineteen long rays: the vertebræ in this fiſh are forty-nine, and the ribs on each ſide thirty-four.

We have it in our large rivers, particularly in the North of England, in great abundance; and it is frequent alſo in the rivers and lakes of moſt other parts of Europe. The Greeks call it Θυμος and Θυμαλλος, and from them the Latins, Thymus and Thymallus; ſome Tithymallus, and ſome Tunallus; others call it alſo Umbra and Umbra fluviatilis, and often deſcribe it as another ſpecies under this name; the Italians call it Temelo, and the Germans Aſch; the Swedes call it Harr.

Coregonus maxilla ſuperiore longiore conica.
The Coregonus, with the upper jaw longeſt and conic.

The Hautin, or Dutin.

This is a ſmall ſpecies; it rarely exceeds eight or nine inches in length, and is but narrow, in proportion to that length: the head is oblong, and the roſtrum of a conic figure: the eyes are large, and the noſtrils have each two foramina, the anterior the ſmaller: the ſcales are moderately large, and of a figure approaching to round; they ſtand in an imbricated manner: the back fin is of a duſky colour, and has thirteen rays; the pectoral fins are of a greyiſh colour, and have each ſeventeen rays; the ventral fins are alſo greyiſh, with a tinge of black, and have twelve rays; the pinna ani has fourteen rays; the tail is forked, and has nineteen: there are no teeth either in the jaws or fauces, but the tongue is rough.

This ſpecies is frequent in the rivers and lakes in Germany, and moſt other parts of Europe; the rivers in Flanders produce it in great abundance. Ray, Willughby,

and Geſner call it Oxyrynchus, and ſome have called it Sphyræna fluviatilis; the people of Flanders call it Hautin and Outin, and we have borrowed the ſame names.

Coregonus depreſſus capite brevi et obtuſo.
The depreſſed Coregonus, with a ſhort, obtuſe, head.

The Amboina Coregonus.

This ſpecies is of a very ſingular figure, extreamly different from all the other Coregoni, though the generical characters refer it to them: the head is ſhort, and the roſtrum obtuſe and rounded; the body is depreſſed, broad, and thin: the back between the head and the fin is ſomewhat ridged, and the belly is alſo ridged: the opening of the mouth is moderately large; the lower jaw is longer than the upper, when the mouth is open, but, when it is ſhut, they are nearly equal: the noſtrils are large, and have each two foramina; they are ſituated about the middle way, between the eyes and the extremity of the roſtrum: the eyes are roundiſh and moderately large, and their iris reddiſh: the branchioſtege membrane contains five or ſix ſlender bones; the apertures of the gills are ſmall; there is a ſingle row of ſhort but robuſt teeth in the lower jaw; there are two ſeries of the ſame kind of teeth in the upper jaw, and the tongue, palate, and fauces are ſmooth: the ſcales are large, white, of a ſemicircular form, and placed in an imbricated manner: the whole fiſh is of an elegant and bright ſilvery white, except the back, which is ſomewhat duſky.

There is only one fin on the back; this ſtands near the middle, and has twelve rays, but they are ſoft and weak: the pectoral fins have each thirteen weak rays; they ſtand near the belly; the ventral fins are narrow and oblong, and have each nine or ten rays: the tail is very large, and deeply forked; the gills are four on each ſide, and are of a very elegant ſtructure.

We had the firſt accounts of this fiſh from Amboina, but it has ſince been met with in many parts of the Eaſt Indies, and, as ſome have affirmed, in South America; but this ſeems uncertain.

OSMERUS.

THE back fin and the belly fins are placed at the ſame diſtance from the head in the Oſmerus, though not in the Coregonus, or Salmo: the teeth are large and ſtrong, and are placed in both jaws, and alſo on the tongue and palate: the branchioſtege membrane on each ſide has ſeven or eight rays.

Oſmerus radiis pinnæ ani ſeptemdecim.
The Oſmerus, with ſeventeen rays in the pinna ani.

The Smelt.

This is a beautiful little fiſh; it's length is five or ſix inches, and it's breadth not great in proportion, but the thickneſs is conſiderable: the head is of an oblong figure, and ſomewhat acute; the opening of the mouth is large: the back is convex all the way; the belly is ſomewhat flat; the lower jaw is a little longer than the upper: the noſtrils ſtand in the middle, between the eyes and the extremity of the roſtrum; they have each two apertures: the eyes are large and round; the pupil is round and black; the iris is of a ſilvery white, but tinged a little with bluiſh toward the upper part: the upper part of the head is of a greyiſh colour, with a tinge of green, and is ſpotted all over with minute dots of black; the ſcull is ſo pellucid toward the upper part, that the lobes of the brain are eaſily ſeen through it: the coverings of the gills are of an elegant, ſhining, ſilvery colour, and ſeem compoſed only of two laminæ, but, when ſtrictly examined, there are found many more: the lateral line is ſtraight, and it runs very near the back: the colour on the back is various; on the top it is of a greyiſh or hoary appearance; a little below this it is of a beautiful green, and under this colour there runs a line of blue; from this there appears a bright ſilvery hue, which is continued all over the reſt of the body, except that on the lower part of the ſides there is ſomewhat of a faint violet tinge: the ſcales are moderately large, ſoft, of an oval figure, placed in an imbricated manner, and they eaſily fall off: all the fins, excepting only that forming the tail, are white: there are two on the back; the firſt or principal one has eleven rays; the hinder one is rather a membranaceous appendage than a fin, having no ray at all: the pectoral fins have each of them eleven, and ſometimes

ſometimes twelve, rays; the ventral fins have eight rays each; the pinna ani has ſeventeen rays; and the tail, which is of a duſky greyiſh colour, and very forked, has nineteen long rays: the whole body, eſpecially toward the back, is very bright, and in ſome degree pellucid; and the fiſh, when freſh taken, has an extreamly agreeable ſmell: the vertebræ are fifty-nine; the ribs are thirty-five on a ſide; the air-bladder is ſimple, and largeſt in the middle.

We have this valuable fiſh in the Thames, and in other of our rivers, which communicate with the ſea. Ray, Willughby, and the reſt of the Ichthyologiſts call it Eperlanus; ſome, as Jonſton and Schonveldt, Spirinchus and Stinchus; it varies in ſize in different places, and has been hence, by ſome, deſcribed under two names, as if two diſtinct ſpecies.

Oſmerus radiis pinna ani undecim.
The Oſmerus, with eleven rays in the pinna ani.

The Taran-tola-fiſh.

This is of the ſize of the ſmelt, or larger: the body is rounded, and the belly flat; it's thickneſs is about that of a man's thumb, when it's length is ſeven inches: the belly is white; the head is flatted on the upper part, and there is a little furrow between the eyes: the opening of the mouth is very large, and the roſtrum is acute: there is in each jaw a ſingle ſeries of long teeth on each ſide of the palate; there is alſo a ſingle ſeries diſpoſed in a right line; there are two ſeries on the tongue, and the apertures of the branchiæ are very large: the back fin has twelve rays, and there is, toward the extremity of the back, a membranous appendage of the appearance of a fin, but without any rays: the pectoral fins have each thirteen rays; the ventral fins are longer by much than the pectoral ones; they ſtand a little below thoſe, and have eight rays: the pinna ani has ten rays: the tail is very forked: the ſcales are large, and are placed in an imbricated manner; they are of a roundiſh figure, and adhere tolerably firmly.

This ſpecies is frequent in the Mediterranean; it is brought to market in Rome and elſewhere under the name of the Tarantola. It was well known to the antients; Ariſtotle and Ælian have mentioned it under the name of Ζαυρος; Athenæus calls it Sauris Speucippi; Salvian and others call it Saurus; others, as Rondelet and Geſner, Lacertus peregrinus, and Lacertus maris Rubri.

S A L M O.

THE Salmo has large, ſharp, and ſtrong teeth in both jaws, and on the palate, tongue, and fauces: the back fin is placed nearer the head of the fiſh than the ventral ones; the body is; in moſt of the ſpecies, variegated with ſpots, and the branchioſtege membrane contains ten, eleven, or twelve bones.

Salmo roſtro ultra maxillam inferiorem ſæpe prominente.
The Salmo, with the roſtrum extending beyond the lower jaw.

The Salmon.

The Salmon is an inhabitant both of the ſea and rivers: the head is ſmall, in proportion to the body, and, when the mouth is ſhut, is of a conic figure; the opening of the mouth, however, is large: the roſtrum is evidently prominent, when the mouth is ſhut, beyond the lower jaw: the noſtrils have each a double aperture, and are ſituated a little nearer to the eyes than to the roſtrum; the eyes are round, and their iris of a ſilvery colour, with a faint admixture of green: the pupil is black, and is rounded on the hinder part, and protended on the anterior part into a ſubacute angle: the coverings of the gills are of a ſilvery colour, and are compoſed of two, or rather of four, bony laminæ, and of twelve broad and ſomewhat crooked bones, connected by a membrane, and there are ſome irregular black ſpots on them: the lateral line is very ſtraight, and runs ſomewhat nearer the back than the belly; and there are ſome black ſpots about the line, both above and below it, but they do not ſtand cloſe: the ſcales are moderately large, and are placed in an imbricated manner; they are largeſt on the back, and are there black; on the ſides and belly they are ſmaller, and of a ſilvery colour: the back is convex, and the belly ſomewhat broad and flatted.

There

There is a ſingle ſeries of teeth in the upper and under jaw, placed at the verge, and very ſharp, and among theſe there are ſome ſmaller than the reſt, and moveable; and there are more teeth in the upper, than in the lower, jaw: at the ſides of the palate there are two ſeries of teeth in longitudinal lines, and in the anterior part of the interſtice, between theſe, there are a few ſmaller teeth: the palate is entirely ſmooth, but deep in the fauces; there are ſome very ſharp teeth turning inwards: the tongue is thick, and has on it a few ſharp teeth, diſpoſed, as it were, in two ſeries, and pointing inward.

There are two fins on the back: the one has fifteen rays; the other, which is the hinder, has no rays at all, but is a thick, blackiſh, fatty, and merely membranaceous appendage, in form of a fin: the pectoral fins are blackiſh at the extremities, and have each fourteen rays; the belly fins are whitiſh, with a little black on the outſide; they have each nine rays, and ſometimes ten, and there always ſtands a large fleſhy and ſquammoſe apophyſis at the top of each of theſe: the pinna ani is white and fattiſh, and has twelve or thirteen fins; the tail is forked, or rather is hollowed in form of a ſmall ſegment of a circle; it is of a blackiſh colour, and has nineteen rays.

We have this in many of our large rivers, particularly in the North of England, in vaſt abundance. Pliny and all the Latin writers call it ſimply Salmo. Caſſiodorus Anchorago; and Albertus and Cuba, Eriox and Erox. Aldrovand and ſome few others call it Salmo nobilis; ſome, Salmo vulgaris and Salmo.

Salmo maxilla inferiore paulo longiore, maculis rubris.
The Salmo, with the lower jaw ſomewhat largeſt, ſpotted with red.

The Trout.

This is not an inhabitant of the ſea or rivers indifferently, as the ſalmon, but is entirely a river fiſh: the head is ſmall and ſharp, but the opening of the mouth is very large: the teeth are large, numerous, and ſharp; there are three ſeries of them on the palate, and one ſeries in each of the jaws; the three ſeries in the palate run nearly parallel in longitudinal lines, and the middle one is largeſt: the lower jaw is viſibly longer than the upper, though the difference is but little: the body is thick, and not broad, in proportion to it's length; the back is of a duſky blackiſh; the ſides of a fine ſilvery hue; and there are, both above and below the lateral line, a number of elegant red ſpots; theſe, in the months of May and June, are of the fineſt bright crimſon, but at other times the red is leſs glowing: the tail is not forked, but is hollowed, as it were, in form of a ſegment of a circle: it is a very beautiful fiſh, and is, with juſtice, greatly eſteemed at our tables.

We have it in moſt of our ſhallow rivers, where the current is ſwift. Authors in general call it Trutta and Tructa; ſome Trutta fluviatilis. Albertus calls it Tritta, and Iſidore, Varius. Some have called it Theda; and others Fario, Salar, and Forella.

Salmo vix pedalis, pinnis ventralibus rubris, maxilla inferiore paulo longiore.
The little Salmo, with the belly fins red, and the lower jaw ſomewhat longeſt.

The red Charr.

This is a very elegant fiſh: it's general length is nine or ten inches, and it's body is not broad, but ſlender and ſomewhat rounded: the back is convex; the belly is flat: the head is ſmall, and of a ſomewhat conic figure; the opening of the mouth is large; the teeth are numerous and ſharp, but there is no middle ſeries of them on the palate: the colour of the back is a duſky brown, approaching to black; on the ſides it is a fine ſilvery white, but there are ſeveral broad ſpots of a duſky colour, both above and below the lateral line: the belly is ſomewhat flatted, and is of a reddiſh colour; there are ſome whitiſh ſpots between the duſky ones: the lateral line is ſtraight; the ſcales are moderately large, and ſtand in an imbricated manner, and the tail is hollowed rather than forked.

We have this ſpecies in the cold lakes, on the tops of our high hills in Weſtmoreland, and other parts of the North of England. Linnæus found it in the cold lakes in Lapland, in which no other fiſh, nor hardly ſo much as an inſect, could live, where not ſo much as a ſingle water-plant was to be found: it is there in ſuch abundance,

that the Laplanders feed in a great meaſure on it. The generality of authors call it Umbla minor, and Umbla lacuſtris minor; Aldrovand, Umbla minor alia.

The other ſpecies of Salmo are, 1. The Salmo ſpotted with grey, and with the extremity of the tail even; this is called the Grey Salmon, and ſimply the Grey. 2. The ſmaller Salmo, with five ſeries of teeth in the palate; this is called the Charr, and the gilt Charr in Weſtmoreland, where it is very common. Geſner calls it Salmo vel Trutta Benaci lacus; the generality of other authors, Carpio lacus Benaci. 3. The broader-bodied Salmo, with black and red ſpots, and with an even tail; this is frequent in the North of England, where it is called Scurf and the Bull Trout; Charleton calls it Trutta taurina; and Johnſton and Willughby, Trutta Salmonata. 4. The yellow-backed Salmo, with yellow ſpots and a forked tail: this is called by authors Salmarinus and Salamandrino; it's head is ſhorter and more rounded than that of any other ſpecies, and it ſeldom exceeds a foot in length. 5. The forked-tailed Salmo, with the lateral lines bent upwards; this is called by authors the Umbla major and Umbla prior, and the Salmo lacus Lemani. 6. The oblong Salmo, with two ſeries of teeth on the palate, and with the ſpots only black; this is called by the Germans, who have it in great abundance, Huch; authors call it Trutta piſcinaria and Trutta fluviatilis altera. 7. The forked-tailed Salmo, with only black ſpots, and with a longitudinal furrow in the belly: this is the ſpecies which authors in general call the Trutta Salmonata and Parvus Salmo; others call it Trutta lacuſtris; Geſner, Trutta magna lacuſtris; and Aldrovand, Trutta lacuſtris, ſive Trutta lacus Benaci. 8. The ſmaller Salmo, with only bright red ſpots.

ESOX.

THE body of the Eſox is of an oblong figure: there is a fin, not very large, at the extremity of the back toward the tail: the branchioſtege membrane has fourteen bones.

Eſox roſtro plagio-plateo.
The Eſox, with a depreſſed roſtrum. **The Pike.**

This grows to a very conſiderable ſize in waters, where there is plenty of food; we meet with it of three feet in length in Whittleſea Meer, and in ſome of the rivers in Northamptonſhire; but from fourteen inches to two feet is it's more uſual ſize: the head is of a very odd figure; it is oblong and obtuſe at the extremity, from the eyes to the extremity of the roſtrum it is depreſſed, and the reſt of it reaching on the hinder part, from the eyes to the back, is compreſſed: the body is oblong, and of a figure approaching to quadrangular: the back, from the head to the fin, near the extremity, is flatted; the ſides are alſo flatted; and the belly, from the gills to the anus, is alſo flatted: the lower jaw projects a little beyond the upper; the opening of the mouth is large, and the noſtrils are very conſpicuous; they have a double aperture, and are ſituated juſt before the eyes: the eyes are large, and their iris is yellow, though often clouded with blackiſh, greeniſh, and other colours: the pupil is oval and bluiſh; there are twelve ducts or foramina in the head; ſix of theſe are ſituated behind the eyes, two between the apertures of the noſtrils, and two before them, and two between the eyes; beſide theſe, there are alſo ſeveral other ſmaller ones on the verge of the lower jaw, and about the hinder part of the head.

The teeth are very numerous and very regularly arranged; there is a ſingle ſeries of them in the verge of the lower jaw; the anterior ones of theſe are ſmaller; the hinder ones large, and all of them alternately fixed and moveable; the upper jaw has no teeth at the ſides, but about the extremity there is a row of ſmall ones; there are three ſeries of teeth on the palate; theſe run parallel to one another in a longitudinal direction; the middle one of theſe conſiſts of very ſmall teeth; the two outer ones are compoſed of larger, all of them pointing inward and moveable: the tongue is a little bifid at the extremity, and is furniſhed with a number of ſmall teeth, and the fauces behind the tongue are alſo furniſhed in the ſame manner: there are two oblong bones in the hinder part of the fauces, furniſhed with teeth; and above theſe there are four others, which are alſo armed in the ſame manner.

The

The lateral line is ſtraight; the ſcales are of an oblong figure, but rounded at the ends; and the colour of the fiſh on the back is a blackiſh olive, but on the ſides a pale ſilvery white, with a caſt of yellowiſh or greeniſh: the fins on the breaſt and belly are of a whitiſh-yellow; the others are of a more duſky browniſh-yellow, ſpotted with black: there is only one fin on the back, which is ſituated near the extremity of the body; this has twenty-one rays; the pectoral fins are oblong, and have each fifteen rays; the ventral fins have each eleven rays, and the pinna ani has eighteen; the tail is forked, and has nineteen long rays.

This is very frequent in our ponds, ditches, and rivers; it is an extreamly voracious fiſh: it's common food is the ſmaller fiſh of the roach and ſimilar kinds, but it eats alſo frogs, ſnakes, rats, and even young water-fowl. All the writers on fiſhes have deſcribed it; Ælian, Oppian, and Athenæus call it Oxyrinchus and Oxyrinchus Nili; the Latin writers, in general, Lucius.

Eſox roſtro cuſpidato, gracili, ſubtereti, et ſpithamali.
The Eſox, with an extreamly long, ſlender, rounded, and pointed roſtrum.

The Gar-fiſh.

This is a fiſh of an extreamly ſingular figure; and, though evidently of the Eſox or pike kind, yet has been, on account of the ſlenderneſs of it's body, ranked by many authors among the acus, a fiſh as different as well can be from this genus: it is one of the ſlendereſt fiſh we are acquainted with, in proportion to it's length; it grows to a foot and a half long, and is not thicker than a man's finger: the body is compreſſed, but the back is ſomewhat convex, and the belly flat: the head is extreamly long, and the opening of the mouth is continued all the way up to the eyes, and is beſet with a vaſt number of teeth, many of which are moveable: the end of the roſtrum is ſomewhat pointed, and the lower jaw is longer than the upper: the back is blackiſh, or of an extreamly deep olive, and the ſides are ſomewhat yellowiſh.

We have it frequent about our own coaſts; it is a very nimble ſwimmer, and is extreamly voracious. Ariſtotle and Ælian call it Βελόνη and Βελόνη θαλάττια; Oppian and Athænæus call it Ῥαφὶς; Pliny deſcribes it under the name of Belone; Albertus and Cuba call it Ahaniger; and Wootton, Acus ſive Belone; moſt of the Latin writers call it Acus piſcis, Acus vulgaris, and Acus Oppiani; we call it the Gar-fiſh, and, in ſome places, the Horn-fiſh.

Eſox maxilla ſuperiore longiore, cauda quadrata.
The ſquare-tailed Eſox, with the upper jaw longeſt.

The great Gar-fiſh.

This greatly approaches to the former in ſhape, but it is larger and ſomewhat thicker-bodied, in proportion to it's length: it grows to more than two feet long, and to the thickneſs of a man's thumb: the head is very long and ſlender; it is of a rounded figure, except toward the extremity, where it is depreſſed: the opening of the mouth is ſurpriſingly large, being continued the whole length of the head: the eyes are ſmall, ſituated very high, and their iris yellowiſh: the back is broad and flat; the ſides but little, prominent; and the belly alſo flat, from the gills to the anus: the ſcales are ſmall, oblong, and rounded at their ends; they are placed in a very elegant, imbricated manner, and ſtand extreamly cloſe.

We have this ſpecies alſo about our own coaſts, but it is not ſo frequent as the former. I met with ſeveral of them, a few years ſince, among the Bognor rocks in Suſſex. Liſter, and after him Willughby and Ray, call it Acus maxima ſquammoſa; confounding it with the other acus of the Syngnathus kind.

ECHENEIS.

THE head of the Echeneis is of a depreſſed figure, broad and flat on the upper part, and marked with a number of rough, tranſverſe ridges, by means of which it fixes itſelf to any ſolid body: the body is oblong and rounded, but ſomewhat depreſſed; there is an oblong fin on the hinder part of the back: the branchioſtege membrane has about nine officles in it.

Of this ſingular genus there is only one known ſpecies.

ECHENEIS. **The Remora, or Suck-fiſh.**

This ſingular fiſh grows to about nine inches in length, and to more than two inches in diameter in the largeſt part of the body, which is that near the head; it thence becomes gradually ſmaller to the tail: the head is broad and obtuſe; the lower jaw is ſomewhat longer than the upper: the back is convex; the belly is flat; the ſides are rounded, and the colour of the whole fiſh is a duſky browniſh-grey: the mouth is moderately large, and is very full of teeth; the fins are ſix, beſide the tail: there are two pectoral and two ventral ones, the pinna ani, and the dorſal one, which is ſingle.

The great ſingularity of this fiſh is in the ſtructure of the upper part of it's head; there are, on the ſurface of this, twenty-two elevated, rough lines, running in a tranſverſe direction, and divided down the middle by one longitudinal one: by means of this ſtructure, the fiſh applies itſelf firmly to any ſolid body that it pleaſes; it is frequently found ſticking to the bottoms of ſhips, and often to large fiſh, particularly to the ſhark kind. There have been moſt idle and romantic ſtories of one of theſe fiſh ſtopping a veſſel under full ſail, by applying itſelf to it's ſide, or ſtopping a ſhark in the ſame manner, at it's pleaſure: but to name ſuch follies is to contradict them.

It is frequent in ſome of the European Seas, as well as in the American. Ariſtotle, Ælian, and Oppian call it Ἐχενηΐς; and the Roman writers have called it, from them, Echeneis; ſome of the later naturaliſts have called it Remora and Remeligo; ſome Iperuquiba, it's Braſilian name; and others, Achandus: the bottoms of ſhips ſtationed in the Weſt Indies are frequently, in a manner, covered with them.

CORYPHÆNA.

THE head of the Coryphæna is very obtuſe before, and runs with a declivity almoſt perpendicular from the vertex to the mouth: the body is of a depreſſed form: the fins are ſeven; one of them, which is ſituated on the back, is extended from the head to the tail: the branchioſtege membrane contains on each ſide five bones, beſide two others, which lie under the bony opercula, and therefore are not to be eaſily diſtinguiſhed.

Corphæna cauda bifurca.
The Coryphæna, with the forked tail. **The Dolphin.**

This is a very beautiful fiſh: it grows to ſix or ſeven feet in length, and the body is conſiderably thick, though not very broad in proportion: the head is large, broad, and ſhort; the roſtrum is rounded; the eyes are large; the noſtrils have each two apertures, and are ſituated a little below them: the body is of a ſomewhat depreſſed form; the back is broad, and has an elegant fin running along it all the way; the colour is a duſky olive on this part, but on the ſides and belly it is of a ſilvery white: the pectoral fins have each twenty rays; the ventral ones have only ſix rays each: the tail is very forked, and has eighteen long rays, beſides a number of ſhort ones at the ſides, not eaſily counted.

This is a native of the American Seas, and ſome other parts of the world. It was well known to the Ichthyologiſts of all times. Ariſtotle and Oppian call it Ἵππουρος; Athenæus, Ἵππουρος; Ray, Willughby, and moſt of the modern, as well as the antient Latin, writers, call it Hippurus; others, Lampugo, Equiſele, and Equiſelis; ſome call it Dorado and Aurantius piſcis; the Braſilians, Guaracapema; we call it a Dolphin, but there is great confuſion in the Engliſh names; we call one of the cetaceous fiſhes alſo by the ſame name. This is the Dolphin our painters figure, but they do it vilely.

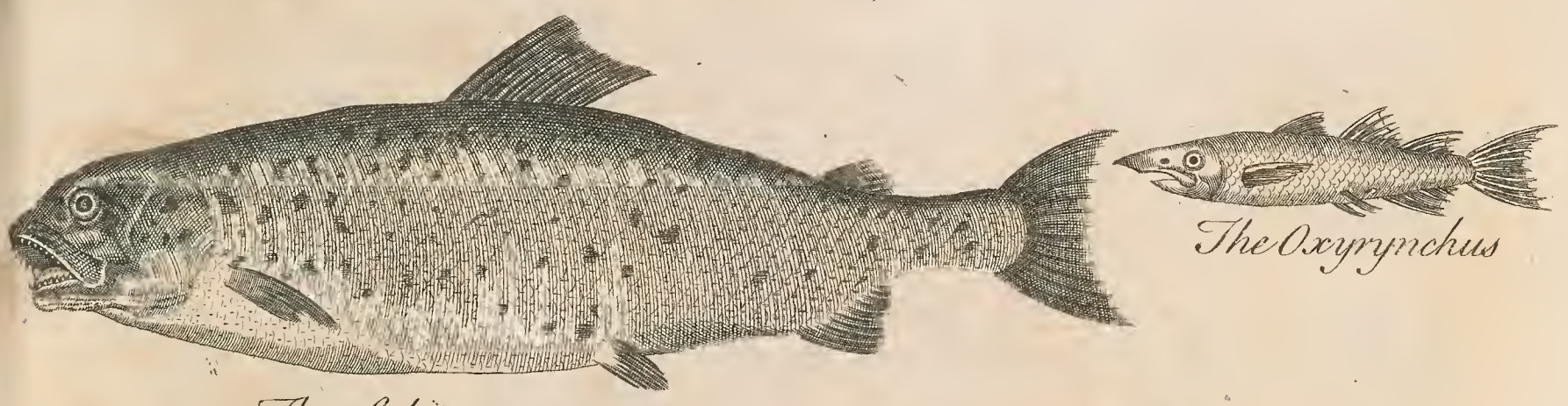
Coryphæna palmaris, pulchre varia, dorſo acuto. **The Razor-fiſh.**
The ſmall, beautiful, variegated Coryphæna, with a ſharp back.

This is a very beautiful little fiſh, and is, in it's general ſhape, as well as in ſize, extreamly different from the former ſpecies: the head is ſhort, and the roſtrum obtuſe: the body is compreſſed and moderately broad, in proportion to it's length; the back is ridged, and the whole body is elegantly painted with a variety of colours: the lateral

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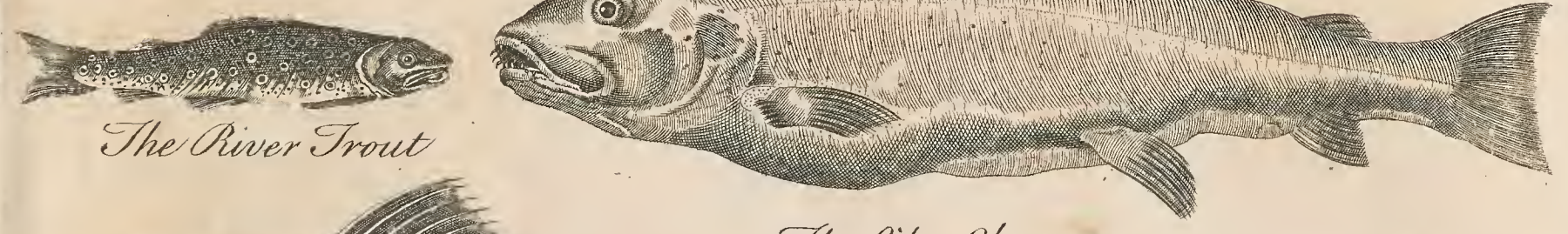


The Remora or Suck fish



The Salar

The Oxyrynchus



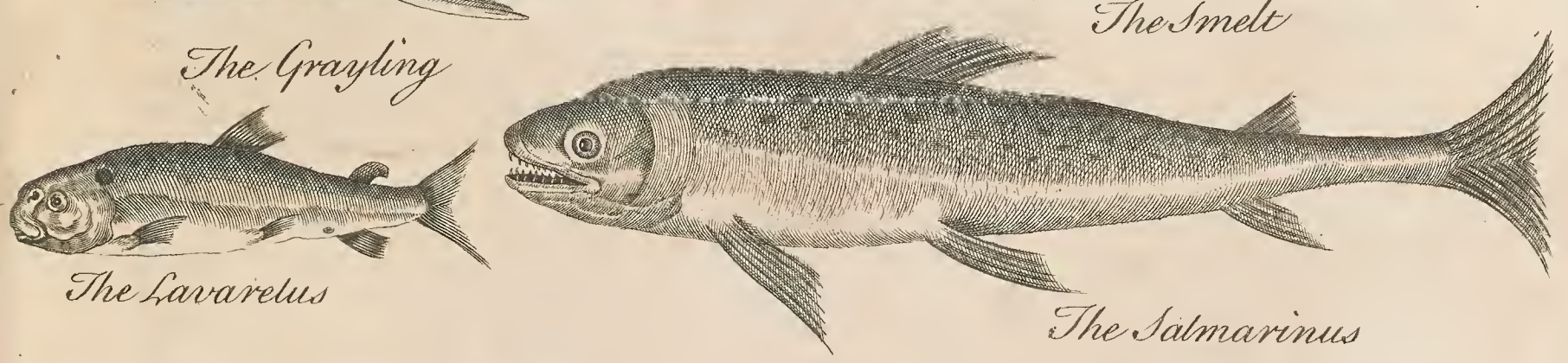
The River Trout

The Gilt Charre



The Grayling

The Smelt

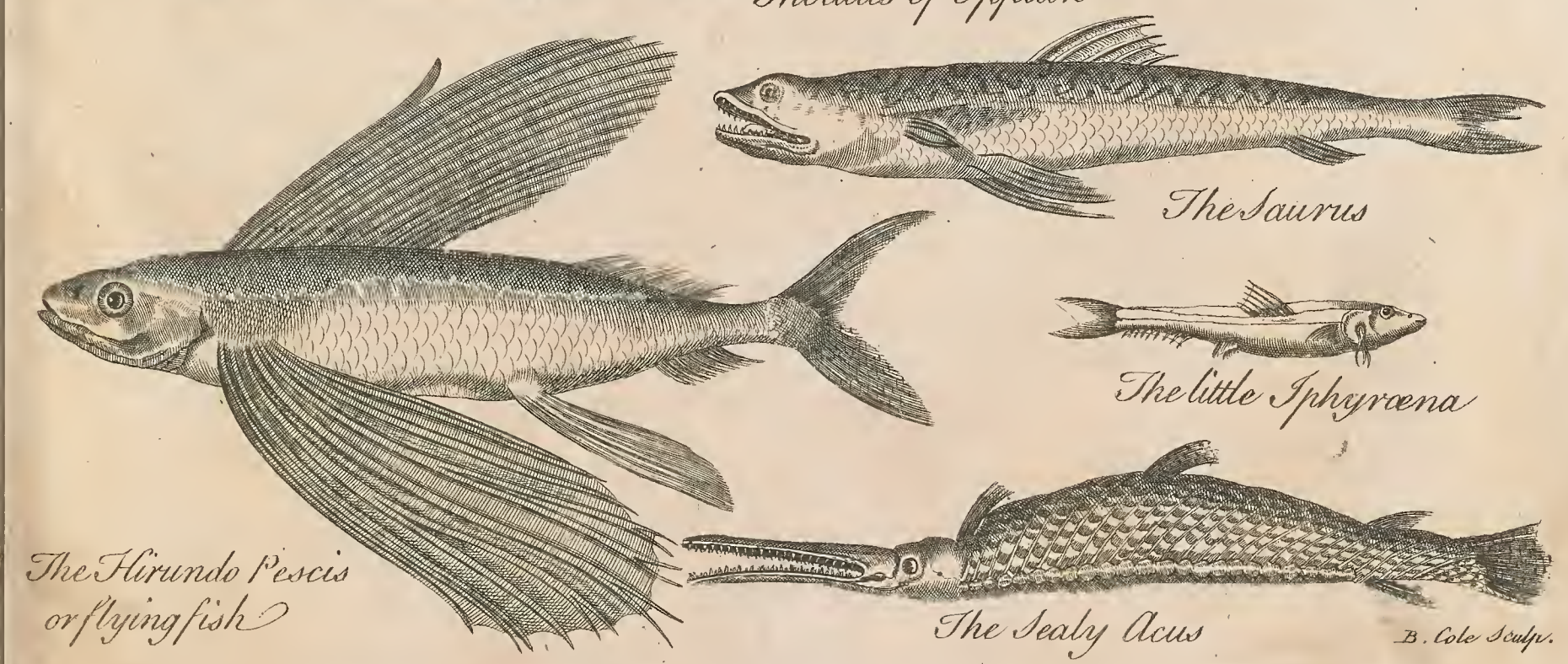


The Lavarelus

The Salmarinus



The Acus of Oppian



The Saurus

The little Iphyræna

The Hirundo Pescis or flying fish

The Scaly Acus

B. Cole Sculp.

lateral line is tolerably ſtraight, and runs very near the back; the anus is ſituated nearer to the head than to the tail: the eyes are ſmall, and ſtand high in the head; the teeth are large, and the front of the jaws is well furniſhed with them; the tail is broad and equal.

This ſpecies is frequent about the coaſts of Minorca, and among the iſlands of the Archipelago. Authors in general call it Novacula piſcis; Salvian, Peſce pettine; and ſome Pecten, and Pecten Romanorum.

There is but one other known ſpecies of this genus, which is the Coryphæna with an undivided tail, and with the lateral line crooked; this is deſcribed by authors under the name of Pompilus.

AMMODYTES.

THE body of the Ammodytes is oblong and ſlender, and is of a rounded, but ſomewhat depreſſed, figure; there are no belly fins: the head is of a depreſſed form; and the branchioſtege membrane on each ſide contains ſeven bones, but they are in great part covered by the opercula of the gills.

Of this genus there is only one known ſpecies.

AMMODYTES. The Sand-Eel, or Grig.

The head of the Ammodytes is ſmall, much narrower than the body, and of a compreſſed figure, and acute at the forepart: the body is long and ſlender, and is a little compreſſed: the lower jaw is narrow and acute, and projects a great way beyond the upper, and the opening of the mouth is large: the noſtrils have each a double aperture, and ſtand in the middle, between the eyes and the extremity of the roſtrum: the eyes are moderately large, and their iris of a ſilvery colour: the laminæ covering the gills are large and bony; the apertures of the gills are large: a lateral line is ſtraight, and runs along the middle of the ſide, at about an equal diſtance between the back and the belly: this, however, when ſtrictly examined, is not exactly and properly what we mean by a lateral line in fiſh, but marks only the interſtices of the muſcles: on a nice examination there will be found another line, beſide this, running from the head to the tail, near the back, and owing it's appearance to the peculiar ſituation of the ſquammulæ; this is properly the lateral line. There run along the belly alſo three lines in a longitudinal direction; they have their origin at the pectoral fins, and the middle one terminates at the anus; the other two run to the tail.

The ſcales are extreamly ſmall on the back; they are of a greyiſh colour, with an admixture of brown, on the ſides. The belly is of a ſilvery white. Moſt of the authors, who have written on theſe ſubjects, have ſuppoſed this fiſh to have no ſcales at all, their ſmallneſs having cauſed them to be overlooked. The pectoral fins are oblong, narrow, and very ſmall; they are ſituated immediately under the gills, and have each twelve rays; there are no ventral fins: the back fin is very long; it begins juſt behind the head, and reaches very nearly to the tail; it has fifty-three or fifty-four rays: the pinna ani is alſo long; it is extended from the anus nearly to the tail, and has twenty-ſeven or twenty-eight rays: the tail is ſhort, and is a little forked at the extremity; it has fifteen long rays: the anus is placed much nearer the tail than the head.

There are no teeth in the jaws, nor on the palate, but on the upper part of the fauces there are two oblong bones, which have very ſmall teeth on them: the tongue is oblong and narrow, and is looſe on the lower part, and ſmooth.

We have this very frequent with us, and call the larger or fuller grown fiſh Sand-eels, and the ſmaller ones Grigs; but we have a way of confounding this with the eel, by calling the young of that fiſh by the ſame name grig. Many of the modern authors have got our Engliſh name, but they ſpell it Sandilz: Schonveldt calls it Tobianus; and Geſner, Ammocætus, Exocætus, and Ammodytes; Charleton calls it, Anguilla de arena; and Boccone, Circirellus Meſſanenſis.

PLEURONECTES.

THE eyes of the Pleuronectes are both placed on one ſide of the head, and this is ſometimes the right, ſometimes the left ſide: one ſide of the fiſh is always white, the other variouſly coloured or obſcure: the branchioſtege membrane contains on each ſide ſix bones; they are of a cylindric figure, and in the lower part, in the middle between theſe, there is another pair; theſe are concreted together, and are ſcarce conſpicuous: the eyes are uſually ſituated in the right ſide of the head, and there is, in ſome ſpines, a ſhort ſpine at the anus.

Pleuronectes oculis, et tuberculis ſex a dextra capitis, lateribus glabris, ſpina ad anum.
The Pleuronectes, with ſix tubercles on the right ſide of the head, and a ſpine at the anus.

The Plaiſe.

The head and the body are both flatted and depreſſed, and the ſides are very compreſſed and thin: the back and the belly, immediately under the head, are aſſurgent and acute: the mouth is ſmall, and obliquely ſituated, with reſpect to the back: the lower jaw is a little longer than the upper; there is a ſingle row of obtuſe teeth in each jaw; in the upper part of the fauces there are alſo two bones, covered with the ſame kind of ſhort, obtuſe, and granulous teeth, and each conſiſting of three parts; there are three other ſmall bones alſo on the lower part, furniſhed with teeth in the ſame manner; but the whole palate and tongue are ſmooth: the noſtrils are ſituated juſt before the eyes; they have each two apertures, and the anterior one has it's valve: the eyes ſtand both on the right ſide of the head; they are very near one another, and ſcarce protuberant at all: there are ſix bony tubercles between the eyes and the lateral line on the right ſide; they are arranged in a ſtraight line, and the fifth, from the eye, is the largeſt: the lateral line is nearly ſtraight, and divides the body into two: the whole body is ſmooth; there are, indeed, ſcales on the ſides and on the head, but they are very ſmall, and adhere extreamly firmly: the right ſide of the fiſh is brown, and is elegantly variegated with round, bright, red ſpots; the back fin and the pinna ani are alſo, in the ſame manner, ſpotted with red: the left ſide is entirely white; this is what we uſually call the belly of the fiſh.

There is only one fin on the back, but this reaches the whole length of it, from the eye to the tail: it has ſeventy-ſix or ſeventy-ſeven rays: the pectoral fins are placed on the ſides below the lateral line; they have twelve rays each: the ventral fins are placed immediately under the pectoral ones, or a little more anteriorly; they have each ſix rays: at the beginning of the pinna ani there is a robuſt, thick, and acute ſpine bent forwards; the pinna ani itſelf is very long, and is extended nearly to the tail; it has fifty-five rays: the tail is oblong, and is not exactly even at the extremity, but the middle is ſomewhat longer than the reſt; it has twenty rays: the branchiæ are four on each ſide; the vertebræ are forty-three, the ribs thirteen.

We have this in our large rivers toward the ſea, and about the ſea-coaſts in many other places. Athenæus calls it Ψῆττα, Cuba; and ſome others, Plais. Bellonius, Ray, and Willughby, Plateſſa; Aldrovand and Johnſon, Paſſer lævis; Rondeletius, Quadratulus and Paſſeris alia ſpecies. We call it a Plaiſe, and the Germans, a Pladiſe and a Scholle.

Pleuronectes oculis a dextra, linea laterali aſpera, ſpinulis ſupine ad radices pinnarum.
The Pleuronectes, with the eyes on the right ſide, the lateral line rough, and ſpinules at the fins.

The Flounder.

This is in general a ſmaller fiſh than the plaiſe, though in ſome places it grows to a tolerable ſize; with us it's general ſtandard is about ſeven inches: the head is ſmall; the mouth is narrow, and the teeth obtuſe: the lower jaw is a little longer than the upper, and each has a ſingle row of teeth: the eyes protuberate very much; they are ſituated on the right ſide of the head: the right ſide of the body is of a duſky olive brown,

brown, often marbled, and often variegated with large, regular, round, black ſpots; the left ſide, or, as we vulgarly call it, the belly, is white, but it is ſometimes ſpotted with yellow: the lateral line is in the lower part ſtraight, but in the upper it is ſomewhat arcuated: the ſcales are very ſmall, and adhere cloſely and firmly to the ſkin, which is thick and ſmooth; and the whole, indeed, appears ſo ſmooth, that on a ſlight view there would not be ſuppoſed to be any ſcales at all on the fiſh: the ſcales at the lateral line, on the right ſide, or, as we call it, on the back, are rendered rough by certain ſmall tubercles, and particularly about the curvatures of that line at the pectoral fins: on the right ſide alſo there are, at the roots of the dorſal fin, and the pinna ani, certain bony tubercles ſomewhat flatted, and furniſhed with ſeveral little ſpines, which turn their points backward: the back fin has from ſixty to ſixty-two rays; the pinna ani has forty-two or forty-three; the pectoral fins have each twelve, and the ventral ſix: the tail is oblong, of a ſquare figure, and equal at the extremity, not forked nor pointed; the vertebræ are twenty-five; the ribs on each ſide are eleven.

We have this ſpecies in vaſt abundance in the Thames, and many other of our large rivers toward the ſea. Ray, Willughby, and Bellonius call it Paſſer fluviatilis, vulgo fleſus; Charleton, Paſſer niger; and Geſner, Fleſus and Fleteletus. We uſually call it the Flounder, ſometimes, the Fluke or Bul.

Pleuronectes oculis a dextra, totus glaber.
The Pleuronectes, with the eyes on the right ſide, and the body ſmooth.

The Turbot.

This grows to a very conſiderable ſize, and is one of the moſt eſteemed fiſh at our tables: the head is ſmall, in proportion to the ſize of the body; the eyes are large and protuberant; the noſtrils have each two apertures, and are ſituated under the eyes; the right and left ſides, or, as we uſually expreſs ourſelves, the back and belly of this fiſh, are both ſmooth. It is conſiderably thick and fleſhy, and the right ſide, which is uppermoſt, as it ſwims, is of a pale reddiſh-brown, and the other white: the dorſal fin reaches from the head to the tail, and has a hundred and five rays: the pectoral fins have each fifteen rays, and the ventral ones ſix; the pinna ani has ſeventy-nine rays.

We have it in our ſeas in great abundance. Ray and Rondelet calls it Hippogloſſus; Geſner, Hippogloſſus, id eſt, Bugloſſus maximus in oceano; Charleton calls it Paſſer Britannicus; and Schoneveldt, Paſſerum genus maximum. We call it in ſome places a Hollibut, but more uſually a Turbot.

Pleuronectes oculis a ſiniſtra, corpore glabro.
The ſmooth-bodied Pleuronectes, with the eyes on the left ſide.

The Pearl.

This is a moderately large ſpecies, but it is not ſo thick and fleſhy, in proportion to it's ſize, as the turbot, nor is it's fleſh ſo well taſted or ſo firm: the head is ſmall, and the opening of the mouth larger than in moſt of this genus: the eyes are protuberant, and ſtand on the left ſide of the head, not on the right, as in all the preceding ſpecies: the teeth are ſmall and obtuſe; the eyes are large and prominent: the right ſide or back is of a duſky brown, and the other ſide of a fine, bright, pearly white, with a tinge of bluiſh in it.

We have this on our coaſts in ſome plenty; it is ſometimes brought to market in London: it uſed to be called the Pearl, but of late our fiſh-mongers have found it more to their intereſt to ſell it under the the name of the Hollibut, on which foundation they are in the right, who diſtinguiſh the hollibut from the turbot. Ray and Willughby call this ſpecies Rhombus non aculeatus ſquammoſus; Ælian calls it ſimply Ῥομβος; and moſt of the old Latin writers, after his example, Rhombus; Geſner and ſome others call it Rhombus lævis; and Bellonius, Rhombus alter Gallicus; our people in Cornwall, Lug-a-leaf.

Pleuronectes

Pleuronectes oculis a ſiniſtra, linea laterali utrinque aculeata.
The Pleuronectes, with the eyes on the left ſide, and the lateral line prickly on both ſides.

This is a moderately large ſpecies: the head is ſmall; the opening of the mouth ſmall; the eyes are protuberant, and the noſtrils are ſmall, but each has two apertures: the teeth are obtuſe, and ſeem a kind of bony granules; and the eyes are on the left ſide of the head, not as uſual on the right: the general length of the fiſh is about ten inches; the upper or right ſide is of a duſky brown, the under or left ſide is white: the lateral line is prickly on both ſides; on the left ſide there are ſeventy-one prickles, and on the right fifty-eight: the back fin has ſixty-ſix rays; the pinna ani has fifty; the pectoral ones have each nine, and the ventral ones ſix.

We have this in abundance in our ſeas. Ariſtotle calls it Ψῆττα; Ælian and Oppian uſe the ſame name. Ovid and all the old Latin writers call it Paſſer; Paulus Jovius, Rhombus; Geſner calls it Rhombus Bellonii; and moſt other writers, Rhombus aculeatus.

Pleuronectes corpore oblongo, ſquammis utrinque aſperis. The Soal.
The long-bodied Pleuronectes, with rough ſcales on both ſides.

This is of an uncommon figure for a fiſh of this genus; it is of an oblong ſhape, tending to elliptic, but ſmaller at each end, and is thin, in proportion to it's extent, though conſiderably broad: it's uſual length is from five or ſix to fourteen inches, and it's breadth not nearly half it's length: the head is obtuſe, and the mouth ſmall; the upper jaw is longer than the under, and the eyes are on the left ſide; the mouth, though ſmall, is formed in a ſingular and odd manner, and is very deep cut; the eyes are not protuberant, and are placed at a greater diſtance than in moſt other ſpecies.

The teeth are very numerous; they are ſmall, ſlender, and moveable, and are placed in ſeveral ſeries in the fauces; there are two roundiſh and large bones in the upper part, and two other ſmaller on the lower, which are more oblong; theſe are all beſet with teeth; and there are a great number of ſhort white hairs, as it were, above and below the mouth, on the white ſide of the body, but there are none of theſe on the other: one ſide of the body, which is the uppermoſt in ſwimming, is of a hoary, browniſh colour; the other is of a pure and elegant white: the lateral line is very ſtraight, and is nearer the back than the belly; but it is continued to the head itſelf, and there, above the gills, it riſes perpendicularly: the ſcales are ſquare, but ſomewhat oblong; they are ſmall, whitiſh in colour, and have ſeveral little ſpinulæ at the extremity; theſe cover the white as well as the brown ſide of the body.

The anus of this fiſh is very odly ſituated; it is between the ventral fins, juſt at the opercula of the gills: the lateral fins are very ſmall; one of them is white, the other is often half-way black; they have each eight or nine bones or rays: the ventral fins ſtand very forward; they have only five rays each, and are very ſmall: the back fin reaches from the head to the tail, and has ninety-one rays; theſe are inclined toward the tail, and there are often ſome black ſpots on the membranes of theſe fins: the pinna ani is very remarkably long, it runs from the anus to the tail; it has ſeventy-four rays; and both this and the back fin are, in part, inveſted with ſcales, which all turn toward the tail; there are no tubercles at the baſes of the fins: the tail is ſomewhat oblong, but it is rounded at the end, and has fourteen rays.

This is frequent in moſt of the European Seas, and is deſervedly in great eſteem at our tables; the antients were as well acquainted with it as we are, and valued it as much. Athenæus calls it Βάγλοσσος; Oppian, Βάγλοσση; Ovid, Pliny, and moſt of the other Latin writers, Solea; Rondelet calls it Bugloſſus; Varro, Linguacula; and moſt of the other writers, Bugloſſus ſive Solea.

Pleuronectes oculis a dextra, squammis asperis, spina ad anum.
The Pleuronectes, with the eyes on the right side, with rough scales, and a spine at the anus.

The Dab.

The body is very broad, in proportion to it's length, and is compressed and thin; the head also is compressed: the back rises into an acute ridge; the belly also is ridged: the mouth is somewhat obliquely situated, and it's opening is very small, and the lower jaw is somewhat longer than the upper; there are a great number of teeth in the upper jaw; in the lower there are a much smaller number, and of these many are moveable: the eyes are protuberant, and on the right side; and their iris is usually yellow, sometimes of a milky white.

The lateral line is elevated into an arch, the convex part toward the back, near the pectoral fins; in the other part it is straight, and runs along the middle of the body, dividing it into two halves: the scales on this species are large for those of one of this genus, and are armed with a number of little spines at the edges, especially on the right side; and the rays of the dorsal fin, and the pinna ani, are on each side invested with scales. The right side is of a browniſh-grey colour, and is variegated with a great number of small, pale, yellow spots; the left side is wholly white; the back fin has seventy-eight or seventy-nine rays; the pectoral or lateral fins have each twelve rays; the ventral ones have only six in each, and the pinna ani has sixty or sixty-one, and there is a spine at the anus: the tail is oblong, and is nearly even at the extremity; it has eighteen rays: the two extream ones of these are small, the others are long; the middle ones are forked half the way down; the vertebræ are thirty-nine.

This is frequent in our seas, and is a well-tasted fish, but not at all equal to the former. Ray, Willughby, and the other Latin writers call it Passer asper sive squammosus; Bellonius, and after him Gesner, Limande; Charleton, Citharus; the French call it Limande, and we the Dab.

The other species of the Pleuronectes are, 1. The Pleuronectes, with the eyes on the right side, and the anus placed on the left side, and with very sharp teeth in the mouth; this has been called Pola by Bellonius, by some Linguatula, and by the greater number of writers Cynoglossus. 2. The Pleuronectes, with the eyes on the left side, and with the body rough; this is the Rhombus squammosus of Charleton, and the Rhombus maximus asper of Ray. 3. The Pleuronectes, with the eyes on the right side, and with a rough, hoary body, and the lateral fins scarce conspicuous. This is a native of the Seas about Amboina, and has not been described by any of the authors who have hitherto written on fishes.

STROMATEUS.

THE body of the Stromateus is extreamly broad, thin, and compressed; the dorsal fin is single, and runs all along the back, and there are no belly fins. Of this genus there is but one known species.

STROMATEUS. The Fiatola.

The body is of an oblong form, considerably broad, and very thin; the head is small, and the opening of the mouth not large: the back is ridged, and so is also the belly; the tail is very forked: there are teeth in both jaws, and also on the palate, but the tongue is smooth and broad: the back fin is very long, and has forty-six rays: the pinna ani has thirty-four rays; the pectoral fins have each twenty-five rays, and the fish has no belly fins at all: the colour of the body is a deep, dusky brown, but it is variegated in an elegant manner, with lines and streaks of a variety of colours.

It is frequent in the Mediterranean, and is brought to market at Rome. Athenæus calls it Στρώματευς, and from him most of the Latin writers have called it Stromateus and Stromatheus; Bellonius calls it Collictys and Fiatola; the Venetians call it Licette; and the Italians, Lampuga.

GADUS.

THE head of the Gadus is uſually compreſſed, but in ſome few of the ſpecies it varies from this, and is depreſſed: the back is furniſhed uſually with three fins, but in ſome ſpecies only with two: the branchioſtege membrane on each ſide contains ſeven bones, of a ſomewhat cylindric figure.

Beſide the difference in the number of the back fins, ſome of the Gadi have cirri at their mouths, and others have not: they may, from theſe obvious differences, be arranged under two or three diſtinct diviſions.

GADI. *Diviſion the Firſt.*

Thoſe which have three fins on the back, and have no cirri.

Gadus dorſo tripterygio, ore imberbi, maxilla ſuperiore longiore, albus.

The white Gadus with no beards, and with three fins on the back, and the upper jaw longeſt.

The Whiting.

The head of this ſpecies is compreſſed, in general; but, when the mouth is ſhut, it is, toward the extremity, a little depreſſed; the body alſo is compreſſed: the back is convex; the anus is at a great diſtance from the tail, and is indeed very near the head: the colour of the whole fiſh is a ſilvery white, except that on the back there is an admixture of a blackiſh tinge, which gives it a hoary appearance: the ſcales are very ſmall, and are roundiſh and white; the upper jaw ſtands prominent beyond the under, inſomuch that, when the mouth is ſhut, the teeth of it fall over the lower: the noſtrils have each a double aperture, and are placed high, being much nearer to the eyes than to the extremity of the roſtrum: the eyes are very large, and the iris is ſilvery; the pupil is very large and bluiſh: the teeth are very numerous; there are ſeveral ſeries of them in the upper jaw, but thoſe of the outer ſeries are longer than any of the others, but they are not all alike in magnitude; in the lower jaw there is only one ſeries, but the teeth are in this alſo very unequal in ſize; in the anterior part of the palate there is a bone furniſhed with a number of ſmall teeth, forming two ſides of a triangle; and in the upper part of the fauces there are two little bones, of a roundiſh figure, and in the lower part two others that are more oblong; theſe four are all furniſhed with a number of teeth: the middle of the palate is ſmooth, as is alſo the tongue; there are nine or more puncta on each ſide of the upper jaw, and there are no beards at the mouth: the lateral line is of a duſky or blackiſh colour, and is crooked, and runs much nearer the back than the belly; and there is on each ſide of the body a large black ſpot, at the origin of the pectoral fins.

The pectoral fins are of a greyiſh colour, and have each twenty-one bones or rays; the ventral fins are ſituated more forward than the pectoral; they are of a whitiſh colour, and have each ſix rays: there are on the back three fins of theſe; the firſt is triangular, and has twenty-one rays; the pinnæ ani are two, and have, the firſt thirty-three, the ſecond twenty-three, rays; they are both of a whitiſh colour, and the firſt is of an oblong figure and larger, the ſecond ſhort and ſmall: the tail is even at the extremity, and is of a blackiſh colour; it has thirty-one rays; the vertebræ are fifty-four.

This ſpecies is frequent in our ſeas, and is much eſteemed at our tables. The modern writers of fiſhes have all deſcribed it, but they have been ſtrangely confuſed in their naming it; they all make it an Aſellus; but Ray and Willughby call it Aſellus mollis major; Charleton, on the other hand, Aſellus mollis minor; Rondeletius calls it Aſelli ſecunda ſpecies; Schoneveldt, Aſellus candidus primus; Aldrovand, Aſellus minor alter; Geſner and ſome others have alſo called it Merlangus.

Gadus

Gadus dorſo tripterygio, maxilla inferiore longiore, linea laterali recta.
The Gadus, with three back fins, with the lower jaw longeſt, and the lateral line ſtraight.

The Cole-fiſh, or raw Pollack.

This ſpecies greatly approaches to the common whiting in ſhape and ſize: the head is compreſſed, and the body is alſo ſomewhat compreſſed, but it is thick, in proportion to it's length: the eyes are large; the mouth alſo is very large, and is is furniſhed with a great number of ſharp teeth: the back is convex; the lateral line is white; the general colour of the fiſh is blackiſh, but it is elegantly variegated with a duſky yellow: the tail is ſomewhat forked, but it is very little; the lateral line is very broad: the firſt of the three back fins has fourteen rays, the ſecond has twenty, and the third twenty-two; the pectoral fins have each eighteen rays, and the ventral ones have only ſix: there are two pinnæ ani; the firſt of them has twenty-two rays, and the ſecond nineteen.

We have this in our ſeas, eſpecially about the northern coaſts. Our common people in Northumberland call it the raw Pollack and the black Pollack; Ray, Willughby, and Aldrovand, all call it Aſellus niger; Bellonius and Geſner borrow one of our common people's names, and call it Piſcis Colefiſh Anglorum; Schoneveldt turns this into Latin, and calls it Aſellus niger ſive carbonarius; and Charleton, Aſellus niger ſive mollis nigricans.

Gadus dorſo tripterygio, maxilla inferiore longiore, linea laterali curva.
The Gadus, with three back fins, with the lower jaw longeſt, and the lateral line crooked.

The Whiting Pollack.

The uſual length of this fiſh is from eight to thirteen inches, and it is conſiderably thick, in proportion: the head is compreſſed; the opening of the mouth is large, and the teeth are numerous and ſharp: the eyes are large, and their iris is ſilvery, and the pupil is large and grey: the back is convex; the ſides are ſomewhat rounded; the lateral line is of a duſky colour, broad and conſpicuous, and is crooked: there are three fins on the back; the firſt of theſe has only eleven rays, the ſecond has nineteen, and the third has ſixteen: the pectoral fins have each ſixteen rays, and the belly fins have only ſix each: the pinnæ ani are two; the firſt of theſe has ſixteen rays, and the ſecond has eighteen.

This is frequent in our ſeas, and is taken in great abundance on the northern coaſts. Ray and Willughby call it Aſellus Huitingo-Pollachius, a ſtrange barbarous name, formed of the Engliſh one; Schoneveldt calls it Aſellus vireſcens: and the beforementioned authors, not obſerving that this was the ſame fiſh, have deſcribed it again from Schoneveldt, and, under his name, as another ſpecies. This is an error, by which the ſpecies of fiſh have been ſtrangely multiplied.

GADI. *Diviſion the Second.*

Thoſe which have three back fins, and have cirri or beards at the mouth.

Gadus colore vario, maxilla ſuperiore longiore, cauda æquali.
The various-coloured Gadus, with the upper jaw longeſt, and the tail even.

The Cod-fiſh.

THIS ſpecies grows to a very conſiderable ſize, three or four feet in length being not uncommon: the head is compreſſed behind, but in the anterior part, when the mouth is ſhut, it appears rather depreſſed: the body is very thick, the back convex, and the ſides rounded: the eyes are large, and the noſtrils have a diſtinct, double aperture; the belly is ſomewhat prominent, and the anus is ſituated high: the upper

upper jaw is longer than the under, and at the extremity of the under jaw there is a cirrus or beard white, moderately thick, of a fleſhy colour, and about half an inch in length: the teeth are very numerous; there are ſeveral ſeries of them in the upper jaw, but the exterior ſeries is longeſt: in the anterior part of the palate there is a bone of a lunated figure, which is furniſhed with teeth; and in the fauces there are two roundiſh bones above, and two oblong ones below, all four beſet with very ſharp, though not very tall, teeth; there is a furrow between the head and the firſt fin of the back, which is very obſervable in the larger fiſh: the lateral line is broad, and of a whitiſh colour; it is much nearer the back than the belly, and it is ſomewhat crooked: the ſcales are extreamly ſmall, and are of a roundiſh, or elſe of a ſomewhat oval, figure; they are of a whitiſh colour: the back and part of the ſides of the fiſh are of a duſky colour, but there are a number of ſmall ſpots, of a blackiſh, or ſometimes of a browniſh or yellowiſh, colour on the back, the ſides, and the head.

The belly is white, but it has ſometimes a number of black ſpots on it; there are three fins on the back, and they are all of a blackiſh colour: the firſt of theſe has fourteen or fifteen rays; the ſecond has eighteen, nineteen, or twenty rays; and the third has ſeventeen or eighteen: there are two pinnæ ani; the one has eighteen, nineteen, or twenty rays; and the other or hinder has ſixteen, ſeventeen, or eighteen: the pectoral fins have each twenty rays, and the belly fins have only ſix each: the tail is ſmall, in proportion to the bulk of the fiſh, and is even at the end: the vertebræ are fifty-three, and the ribs eighteen on a ſide.

This ſpecies is frequent in our ſeas, and in thoſe of moſt other parts of the world, and is of vaſt uſe, as proviſion, both freſh and preſerved in ſalt, in which laſt ſtate it becomes a very conſiderable article of commerce. Ray, Willughby, and Schoneveldt call it Aſellus varius ſive ſtriatus; Jonſton and others, Aſellus varius; we call it the Cod and Cod-fiſh; the Swedes Sma Torſk.

Gadus corpore albicante, maxilla ſuperiore longiore, cauda parum bifurca.

The white Gadus, with the upper jaw ſomewhat longeſt, and a forked tail.

The Haddock.

This grows to a conſiderable ſize: the head is large, and of the ſame figure with that of the former ſpecies: the noſtrils are conſpicuous, and have a double aperture; the eyes are large; the opening of the mouth is alſo wide, and is furniſhed with a great number of teeth; the upper jaw ſtands out to ſome diſtance beyond the under one, and at the extremity of the under one there is a ſmall and ſingle cirrus or beard: the back, from the head to the firſt fin, is contracted at it's top into a kind of ridge; the belly is flat, and of a fine, elegant, milk white: the lateral line is nearly ſtraight; it runs near the back, and is of a black colour; the reſt of the body is of a greyiſh-white, but the back is duſkier than the reſt, and has no variegations.

We have this ſpecies alſo in our own ſeas in great abundance, as well as in thoſe of moſt other parts of the world; the antients were very well acquainted with it. Pliny calls it Callaris; and Charleton recounts the antient names of Callaris Galeridea and Galaxias; others call it Piſcis Capitoſus; Bellonius, Æglefinus and Ægrefinus; Geſner, Rondelet, and others, Aſellorum tertia ſpecies Eglefinus; Schoneveldt, Aſellus minor; and Turner and ſome others, Onus ſive Aſinus antiquorum; we call it the Haddock; the Danes, Kole.

Gadus longitudine ad latitudinem tripla pinna ani oſſiculorum triginta.

The Gadus, with it's length equal to three times it's breadth, and with thirty rays in the pinna ani.

The Whiting Pout.

The head of this ſpecies is large, and it's upper jaw is a little longer than the under: on the extremity of the under jaw there is a ſingle cirrus or beard of ſix or ſeven lines in length: the back is convex; the body is, in it's general ſhape, like that of the

the reſt of the Gadi, but it is broader, in proportion to it's length, than any of the others, the breadth equalling one third of that meaſure: at the roots of the pectoral fins there is, on each ſide, a ſingle, blackiſh ſpot: the tail is black at the extremity, as are alſo the back fins; and the firſt of the pinnæ ani is frequently bluiſh: the body of the fiſh is of a whitiſh colour, obſcured with a faint tinge of blackiſh: the back is brown; the lateral line is brown, or ſometimes blackiſh; it runs very crooked, and is much nearer the back than the belly: the ſcales are large and white; they are of a roundiſh but ſomewhat oblong figure, and ſome of them angular: the mouth does not open ſo very wide, as in ſome of the other ſpecies.

The pectoral fins are of a pale reddiſh-brown colour, and have each nineteen rays: the ventral fins are white, and have each only ſix rays. There are three fins on the back; the firſt of them has thirteen rays; it is taller than the other two, and is of a ſomewhat triangular figure: the ſecond is longer than the others, and has twenty-four rays; the third or hindermoſt has twenty-one rays: there are two pinnæ ani; the firſt is of an oblong figure, and has thirty-one rays; and the other is, in a manner, continuous to this, and is placed exactly over-againſt the third back fin; this has twenty-one rays: the tail is even at the extremity, and it's rays are all of a length.

The anus in this ſpecies is very near the head; it is, in a well-grown fiſh, not three inches from the extremity of the roſtrum, which is barely a third of the length of the fiſh: nine inches in length, and three in breadth, are the uſual ſtandards of this ſpecies, but it ſometimes grows much beyond theſe: there are about nine puncta on each ſide, on the lower jaw.

We have this ſpecies in our own ſeas; it is caught in great abundance on the coaſt of Cornwal, and in many other places. Willughby and others call it Aſellus mollis latus; Charleton, Aſellus barbatus; and we, the Pouting, the Whiting-pout, and ſometimes ſimply the Pout. Authors have deſcribed, as another ſpecies, what they call the Aſellus luſcus, and what our country people in Cornwal call the Bib, or the Blind; but, on the ſtricteſt examination, this appears not to differ from the ſpecies here deſcribed.

Gadus corpore ſeſcunciali, ano in medio corporis. The Poor.
The inch and half Gadus, with the anus in the middle of the body.

This is the ſmalleſt of all the Gadi: it's general appearance, at firſt ſight, would lead an inacurate obſerver to ſuppoſe it only the young of ſome of the other kinds; but, on examination, it appears perfectly diſtinct from them all; and even the common people of Cornwal, who frequently meet with it, diſtinguiſh it, and give it a peculiar name: it's uſual ſize is an inch and a half in length, and it very rarely indeed exceeds two inches: the head is large, in proportion to the body; the eyes are prominent; the opening of the mouth is very large, and is well furniſhed with teeth; and the noſtrils have each a double aperture, and are ſituated at ſome little diſtance below the eyes: there are nine puncta on each ſide on the jaws; the back is convex, and of a duſky brown; the belly is ſomewhat flat and white, and the anus ſtands at about an equal diſtance from the extremity of the head and the tail.

There are three fins on the back: the firſt has twelve rays; the ſecond has nineteen rays, and the third ſeventeen: the pectoral fins have each thirteen rays, and the ventral ones have ſix: there are two pinnæ ani; the firſt has twenty-ſeven rays, and the ſecond has ſeventeen: the tail is moderately large, and is even, not divided or hollowed at the end; the lateral line is crooked.

This ſpecies is very frequent in our ſeas, and in thoſe of moſt other parts of Europe and elſewhere. Ray and Willughby call it Aſellus mollis minor, and Aſellus omnium minimus; Rondeletius calls it Anthiæ ſpecies ſecunda: we call it the Poor and the Power; the Venetians, Mollo; and the Maſſilians, Capellan.

GADI. *Diviſion the Third.*

Thoſe which have only two fins on the back.

Gadus dorſo dipterygio, maxilla inferiore longiore.
The Gadus, with two back fins, and with the lower jaw longeſt.

THIS is a conſiderably large ſpecies; it frequently grows to two feet in length, and ſometimes to conſiderably more; but it is the ſlendereſt of all the ſpecies, in proportion to it's length: the head is large and broad; the body is rounded; the back is convex; the belly is ſomewhat flatted, but leſs ſo than in many of the other ſpecies; the ſides are full and prominent; the colour on the back is a duſky greyiſh, with an admixture of brown; the ſides are of a ſilvery grey, with ſome admixture of the ſame browniſh colour, but in ſmall proportion; the belly is of a milky white; the tail is large, and is even at the extremity, not at all forked or hollowed.

There are two fins on the back; the firſt has only nine rays; the other, or hinder one, is much longer, and has forty; the pectoral fins have twelve or thirteen each, and the ventral ones ſeven; the pinna ani has thirty-nine rays; all the fins are of a greyiſh colour, with more or leſs admixture of black.

We have this ſpecies frequent in our ſeas. The antients were acquainted with it; they call it Ὄνος and Ὄνος θαλάττιος; and ſome of them Γάδος; Pliny calls it Bacchus; Bellonius and Geſner, Merbricus; Ovid, Varro, and many other of the Latin writers call it ſimply Aſellus; Salvian, Aſellus minor; Charleton, Aſellus fuſcus; and others, Aſellus primus ſive Merbricus. We call it the Hake; the Italians, Merluzzo; and the French, Merlus. Salvian's figure has a ſtrange inaccuracy in it; it gives two pinnæ ani, and but one back fin, the contrary of which is in nature, the pinna ani being ſingle, and the dorſal ones two.

Gadus dorſo dipterygio, ore cirrato, maxilla ſuperiore longiore.
The cirrated Gadus, with two back fins, and with the upper jaw longeſt.

The Ling.

This ſpecies in ſome degree approaches to the hake in ſhape, but it is ſufficiently diſtinct in many particulars: the head is large, broad, and depreſſed, and the opening of the mouth very wide, and furniſhed with a great number of ſharp teeth: the eyes are large, but not very prominent; the noſtrils have each a double aperture, but they are not very conſpicuous: the body is very long, in proportion to it's thickneſs, and is not flat but rounded: the back is convex, and of a deep, blackiſh, brown colour; the ſides are prominent, and of a paler browniſh-grey, and the belly is flatted, and of a fine milky white: the firſt of the two back fins is ſhort, and has only fifteen rays; the other is greatly longer, and has no leſs than ſixty-five rays: the pectoral fins have each fifteen rays, and the ventral ones only ſix each: the pinna ani is tough and long; it has ſixty-two rays.

This is frequent in many of the European, as well as the American, Seas. Charleton calls it Molva major and Morhua major; Ray, Willughby, and Schoneveldt, Aſellus longus; the Swedes, Longa; and we, Ling.

Gadus ſulco ad pinnam dorſi primam ore cirrato.
The cirrated Gadus, with a furrow at the firſt back fin.

The Whiſſle-fiſh.

This is a ſmall ſpecies: it's uſual length is about eight inches, and it's thickneſs not great, in proportion: the head is large, and ſomewhat depreſſed; the opening of the mouth is large, and the eyes are prominent; the back is convex, and of a duſky brown, with an admixture of an iron grey: the head is of the ſame colour, but more gloſſy, and with ſomewhat of an admixture of olive colour: the ſides are of a paler and ſomewhat ſilvery grey, with no brown in it; and the belly is ſomewhat flatted and white; there is a remarkable furrow on the anterior part of the back, out of which the firſt of the two back fins ariſes: this has about twenty rays; the ſecond is much

much longer, and has fifty-ſix rays; the pinna ani has forty-ſeven rays, and the ventral fins have only ſeven rays each: the tail is large, and is rounded at the extremity.

We have this very frequent in our own ſeas, and it is abundant in the Mediterranean, and in many others. Bellonius calls it Galea Venetorum ſive Aſellorum altera ſpecies; Rondelet, Geſner, Aldrovand, Willughby, and Ray call it Muſtela vulgaris; Jonſton ſimply, Muſtela; Schoneveldt, Muſtela altera: the Venetians call it Donzellina and Sorge; and we, the Whiſtle-fiſh.

Gadus dorſo dipterygio, ore cirrato, maxillis æqualibus.
The cirrated Gadus, with two fins on the back, and the jaws equal.

The Eel-pout.

This is a long and ſlender ſpecies: the head is large, broad, and depreſſed; the eyes are not very large, nor ſo prominent as in many of the other ſpecies: the body is long, ſlender, and not flat, but of a rounded figure: the back is convex; the ſides are rounded, and the belly is alſo ſomewhat prominent and rounded: the back is of a duſky browniſh-grey, with a tinge of olive colour in it; the ſides are of the ſame colour, only fainter, and both are elegantly clouded and variegated; the belly is white and ſimple: the whole fiſh is ſoft, lubricous, and ſlippery, in the manner of an eel: there are two fins on the back; the firſt of them is ſhort, and has thirteen rays; the ſecond is long, and has twenty-ſix rays: the pectoral fins have each twenty-one rays; the ventral ones have ſeven rays each, and the pinna ani has fifty-five rays.

We have it in plenty in ſome of our larger rivers. Aldrovand, Willughby, and Ray call it Lota; Geſner, Lota Gallis dicta; and Jonſton, Lota Gallorum; Bellonius and Geſner call it Striuſia ſive Botatriſia; Iſidore and Cuba, Borbotha; Olaus Magnus Borbocha; Salvian calls it Botatria and Triſeus; and Hildegard, Abropa: moſt of the other writers have called it Muſtela fluviatilis and lacuſtris.

The other ſpecies of the Gadus are, 1. The Gadus, with three fins on the back, with a cirrated mouth, and with the tail nearly even at the extremity, with the firſt ray of it ſpinoſe or prickly. This is the ſpecies which the Danes call Cablag, and the Swedes Cabila, and which many of the writers on fiſhes have called Morva, or Morhua, or Molva vulgaris, a name ſome have underſtood, as ſignifying the common cod-fiſh, but this erroneouſly. 2. The long, ſmaller-mouthed, Eaſt Indian Gadus.

ANARHICAS.

THE body of the Anarhicas is compreſſed, and the head, on the contrary, is ſomewhat depreſſed; there are no ventral fins: on the back there is only one fin, which is very long, and extends almoſt to the tail: the pinna ani is alſo very long, and the tail is diſtinct and ſquare: the branchioſtege membrane contains ſix, and ſometimes more, officles.

Of this genus there is but one known ſpecies.

ANARHICAS. The Wolf-fiſh.

This is a very ſingular fiſh; it grows to four or five feet in length, and is conſiderably thick, in proportion: the head is very large, and of a depreſſed figure; the opening of the mouth is enormouſly wide, and there are a vaſt multitude of large and ſtrong teeth in the jaws, on the palate, and deep in the fauces: the eyes are very large and prominent; they ſtand very high on the head, and have a look of a peculiar fierceneſs: the noſtrils ſtand at a moderate diſtance below them, and have each a double aperture; the back is convex, and the ſides are prominent: the whole body of the fiſh is ſoft and lubricous, in the manner of that of an eel, and is elegantly variegated with ſeveral colours: the pectoral fins are very large, and of a rounded figure: the back fin is very long, but not remarkably tall; the pinna ani alſo is long and low.

It is ſometimes, but rarely, caught in the Mediterranean, and has been accidentally taken upon our own coaſt. I remember to have ſeen a large one at Goodwood, brought as a preſent to the late Duke of Richmond from the Suſſex coaſt, where it had been caught by ſome fiſhermen. It is an extreamly voracious and bold fiſh, ſeizing

upon almoſt any thing, and deſtroying whatever it once fixes it's jaws upon. Schoneveldt calls it Lupus marinus noſtras; Jonſton, Lupus marinus; Ray and Willughby, Lupus marinus noſtras et Schoneveldei; Geſner calls it Anarrhicas, Scanſor, and Rhein-fiſch; we the Wolf-fiſh.

MURÆNA.

THE body of the Muræna is long, ſlender, and rounded, or ſubcylindric; in ſome ſpecies the fins are three, in others they are four, and in ſome again there is only one: at the very extremity of the roſtrum there are two ſhort tubes or foramina, one on each ſide; theſe are the anterior apertures of the noſtrils: the branchioſtege membrane on each ſide contains ten ſlender and crooked bones, but the ſkin of the fiſh is thick and firm, ſo that, till it is taken off, they are not eaſily diſcovered.

Muræna unicolor maxilla inferiroe longiore.
The ſimple-coloured Muræna, with the lower jaw longeſt. The Eel.

The head of the eel is depreſſed in the anterior part, but in the hinder it is rounded, or, if any thing, a little compreſſed; it is ſmall, and acute at the extremity: the body is long and rounded, toward the extremity it is ſomewhat compreſſed; it's whole ſurface is ſmooth and ſlippery, being covered with a thick, viſcous matter; it ſeems to have no ſcales, but, when the ſkin is dried, there are found ſome: the lower jaw is ſomewhat prominent beyond the upper; there are, in the extremity of the roſtrum, two little tubes, one on each ſide; theſe are open at the extremity, and pervious all the way; they are no other than the anterior foramina of the noſtrils aſſuming that form: the two poſterior foramina are ſituated at a great diſtance from theſe; they are ſituated, indeed, juſt before the eyes, one under each: the eyes are ſmall, round, and covered with a thick and but little pellucid membrane; the iris is of a duſky red; the pupil is very ſmall and black; in both jaws there are a great number of little foramina or ducts; there are about ſixteen of theſe in the lower, and many more than that in the upper: there are ſeveral ſeries of teeth, both in the upper and under jaws; in the anterior part of the palate there is a bone ſituated longitudinally, and contiguous to the teeth in the jaw; this is covered with teeth, but the reſt of the palate is ſmooth: in the upper part of the fauces there are two bones covered with teeth; and in their lower part, toward the gills, there are alſo two more, which are of a longer figure than theſe, and are not quite ſo rough: the tongue is ſmooth, and is immoveable, being ſupported along it's middle by a rigid bone.

The coverings of the gills are not open, either above or below, but they have a little aperture on each ſide, near the pectoral fins: the lateral line is ſtraight; in the anterior part it riſes toward the back, and in the lower, or from the middle to the tail, it divides the body regularly in half, and there is a ſingle row of puncta toward the lower part of the line: the colour of the back and ſides is naturally duſky and blackiſh, but ſometimes coppery, and ſometimes greeniſh; the belly is either of a ſilvery white, or yellowiſh; the anus ſtands nearer the head than the tail.

The eel has three fins; the pectoral ones are two; they ſtand one on each ſide, near the aperture of the gills, and are ſmall, and of a blackiſh colour; each has eighteen or nineteen rays: the back fin is ſingle; it begins at a conſiderable diſtance from the head, and ſurrounds the body, going round the tail, and coming up again continuous as far as the anus; this is but low, and is ſupported by a vaſt number of bifid rays: the extremity of this fin, which forms what may be called the tail, is neither round nor ſquare, but ſubacute: the branchiæ are four on each ſide; they are full of elegantly divided blood-veſſels on the convex part, and on the concave they have no apophyſes: the vertebræ are a hundred and ſixteen; the ribs are ſhort, and adhere but ſlightly to them.

We have this ſpecies in all our freſh waters, in ponds, ditches, and rivers. The antients called it Ἔγχελυς; the moderns, Anguilla: the Swedes call it Al; the Germans, Ahl; and we, the Eel. About two feet is it's general ſtandard with us, but there have been occaſionally caught ſome vaſtly larger.

Muræna

Muræna ſupremo margine pinnæ dorſalis nigro.
The Muræna, with the upper edge of the dorſal fin black.

The Conger, or Sea-eel.

This has greatly the external appearance of the eel, but exceeds it extreamly in ſize: we frequently ſee it of five or ſix feet long, and of the thickneſs of a man's thigh, and ſome have been caught vaſtly larger: the head is acute; the opening of the mouth is large, and the teeth are extreamly numerous and ſharp: the eyes are ſmall, and covered with a thick membrane; their iris is of a ſilvery white, and the pupil ſmall, round, and black: the pectoral fins are ſmall; and the lateral line runs ſtraight, and is broad and white: the colour of the back and ſides is a deep olive; the belly is of a ſilvery white, ſometimes tinged yellowiſh or browniſh: the back fin ſurrounds the whole hinder part of the body; it is ſupported by a vaſt number of rays, and is of a greyiſh olive colour, except at the edge, where it is blackiſh.

This ſpecies is caught at ſea, and in the mouths of large rivers. Athenæus and Oppian call it Γόγγρος; the Latin writers in general Congrus and Conger; ſome of them Gonger, and ſome Gryllus.

Muræna roſtro acuto, lituris albis vario, margine pinnæ dorſalis nigro.
The Muræna, with the ſnout ſharp and ſpotted with white, and with the edge of the back fin black.

The flat-tailed, Sea-ſerpent.

This has much of the general reſemblance of the eel, but the body is leſs rounded; it grows to between three and four feet in length, and, when of this ſize, is as thick as a man's wriſt: the head is ſmall, and the roſtrum acute; the colour is a duſky greeniſh olive, but it is variegated with a number of white blotches: the opening of the mouth is very wide, and the teeth are numerous, ſharp, and larger than in the common eel: the eyes are ſmall and round; the iris ſilvery, and the pupil is black and round: the iris has ſometimes a red tinge, but this is leſs common: the pectoral fins are ſmall, and are ſituated juſt by the apertures of the gills: the body is ſomewhat compreſſed all the way, but in particular from the anus to the tail it is very remarkably ſo: the back is of a yellowiſh colour, but there are ten elegant, ſilvery ſpots running along the middle of it: the belly is of a ſilvery white; the back fin ſurrounds the tail, and comes up to the anus; it is ſupported by a great number of rays, but they are ſlender, and the membrane that covers them is ſo thick, that they are not eaſily counted.

This ſpecies is frequent in the Mediterranean, and has ſometimes been caught in our ſeas; I remember to have ſeen ſmall ones often on the coaſt of Yorkſhire. Ariſtotle, Ælian, and Athenæus call it Μύρος; Pliny, Smyrus and Myrus; moſt of the Latin writers, after him, have called it Myrus; Gaza calls it Myrus; Ray, Willughby, and many others call it Serpens marinus alter cauda compreſſa.

Muræna exacte teres, cauda acuta, apterygia.
The cylindric Muræna, with the tail naked and acute.

The Sea-ſerpent.

This has vaſtly more the appearance of the ſerpent-kind than the former ſpecies, but both of them are properly and punctually Murænæ: as the ſpecies hitherto deſcribed have only three fins, this, from a diſcontinuity of the ſurrounding fin, has four; it grows to five feet in length, and to the thickneſs of a man's wriſt: the head is ſmall, and the roſtrum acute, but the opening of the mouth is very large, and is furniſhed with a vaſt number of very ſharp and ſtrong teeth, of unequal ſizes: the eyes are ſmall; their iris is of a gold yellow, the pupil round and black: the colour of the head is a duſky olive, with an admixture of grey: the body is not at all compreſſed, but perfectly rounded; the back and ſides are of a duſky olive, and the belly of a ſilvery white: the lateral line is broad and pale, and is not ſtraight as in the others, but very flexuous and crooked: the pectoral fins ſtand juſt at the apertures of the gills; they are ſmall, and they have each ſixteen rays: the back fin does not ſurround the body, or indeed reach to the extremity of it, but is terminated at ſome

diſtance above it: the pinna ani is placed over-againſt this, and terminates in the ſame manner, ſhort of the extremity of the body, ſo that the tail is naked; it is rounded, and terminates in a ſharp point: the pectoral fins are of a pale browniſh-grey; the back fin and pinna ani are of a deeper grey, with a tinge of bluiſh, and are edged with black: the whole fiſh has much the appearance of the others of this genus, but for the ſingularity of the naked tail; which, together with the roundneſs of the body, obtained it the name of the Sea-ſerpent.

It is frequent in the Mediterranean, and is ſometimes caught about the coaſts of France. Ariſtotle and others of the old Greek writers call it Ὄφις Θαλάττιος; and from them the Latins in general Serpens marinus. Moſt of the writers on fiſhes have figured it, but few of them correctly.

Muræna teres, gracilis, maculoſa, cauda tereti cuſpidata apterygia.
The ſlender, ſpotted Muræna, with a pointed, naked tail.

The ſpotted Sea-ſerpent.

This is one of the ſlendereſt, in proportion to it's length, of all this genus: it grows to four feet in length, and is not thicker than a well-fed eel of two and a half: the head is ſmall; the mouth is large, and the palate, as well as jaws and fauces, are all furniſhed with ſtrong and ſharp teeth, which point inwards: the eyes are ſmall, the noſtrils very conſpicuous; the whole body is rounded, not compreſſed: the back and ſides are of a duſky livid colour, with ſome tinge of yellowiſh in it, and are ſpotted in an irregular manner, with a pale whitiſh: the belly is alſo whitiſh; the pectoral fins are ſmall, and placed juſt at the apertures of the gills; the back fin is low and long, as is alſo the pinna ani; they are both of them whitiſh, as are alſo the pectoral ones, and none of them are at all ſpotted: the tail is naked, and is not compreſſed, but rounded, and terminates in a ſharp point.

This is frequent in the Mediterranean, and in ſome other ſeas; I have ſeen it caught on the Suſſex coaſt. Ray after Liſter calls it Serpens marinus maculoſus.

Muræna pinnis pectoralibus carens.
The Muræna, with no pectoral fins.

The Muræna.

This is a very ſingular ſpecies; it has properly only one fin, which is the pinna dorſi ſurrounding the tail, and running up to the anus: it grows to about two feet, and to the thickneſs of a well-fed eel of the ſame length: the head is ſmall; it's extremity acute, and the opening of the mouth very large; there are much fewer teeth than in the other Murænæ, there being only one row in each jaw: the eyes are ſmall; their iris is yellow, and the pupil round, ſmall, and of a bluiſh black: the back and ſides of the fiſh are variegated with a deep brown, a blackiſh, and a yellowiſh tinge, and the belly is whitiſh: there are no pectoral fins, but the dorſal one is long, and ſurrounds the tail.

This ſpecies is frequent in the Mediterranean, and in many other ſeas. Ariſtotle, Ælian, Oppian, and Athenæus call it Μύραινα; and from them the Latin writers in general Muræna; ſome, Murena, but this improperly; Columella calls it Fluta.

OPHIDION.

THE body of the Ophidion is long, ſubcylindric, and has three fins: the branchioſtege membrane contains ſeven bones; they are oblong, ſlender, and ſomewhat crooked, and are very difficultly diſtinguiſhed, unleſs the fiſh have the ſkin firſt taken off.

Ophidion cirris quatuor in maxilla inferiore.
The Ophidion, with four beards on the lower jaw.

This grows to the ſize of a moderately large eel, but much ſmaller ones are greatly more frequent: the head is ſmall, and the noſe pointed: the opening of the mouth is not very large, but the teeth are numerous and ſtrong; the upper jaw has a few

few ſpots of a pale colour on it, and from the under jaw there hang four beards or cirri; they are ſhort, of a cylindric figure, and whitiſh: the eyes are ſmall, and the apertures of the noſtrils are not ſo diſtinct as in the eel kind: the back is convex, and the ſides prominent, ſo that the whole body appears rounded; the upper part of the back is of a blackiſh hue; the lower part, toward the ſides, of a livid tinge, with an admixture of olive, and the ſides themſelves, eſpecially toward the belly, are principally of an olive colour; the belly is white: the pectoral fins ſtand at the opening of the gills, and are ſmall and obtuſe: the back fin ſurrounds the tail, and returns up to the anus, which is ſituated at a conſiderable diſtance above it; it is low, but has a great number of rays, all of them bifid at the ſummit.

This is frequent in the Mediterranean, and is ſometimes caught on the coaſts of Sweden and Denmark. Pliny calls it Ophidium; Rondeletius, Ophidion; Geſner, Aldrovand, and Jonſton, Ophidion Plinii; Bellonius calls it Gryllus vulgaris aſelli ſpecies; and Pliny, in another part of his work, deſcribes it a ſecond time under the name of Piſciculus Congro ſimilis.

Ophidion cirris carens.
The Ophidion, without beards.

This grows to about a foot and a half long; but the greater number that are met with are much ſmaller: the head is ſmall, depreſſed a little toward the crown, and acute at the extremity; it's colour is a bright olive, with a ſtrong admixture of yellow: the eyes are ſmall; their iris is yellow, and the pupil is ſmall, round, and blue: the back is rounded, as indeed is the whole body; there are no beards on the under jaw, and the opening of the mouth is not nearly ſo large as in the former: the pectoral fins are ſhort, and ſtand near the apertures of the gills; the back fin is long, and goes round the tail up toward the anus: the back is of a dark colour, approaching to cheſnut; the ſides are yellow, and the belly is whitiſh.

It is frequent in the Baltic, and in ſome other ſeas. Rondelet calls it Ophidion flavum ſive Ophidion imberbe; Willughby and Ray, Ophidium alterum ſive flaveſcens.

ANABLEPS.

THE Anableps has only one ſmall fin at the extremity of the back: the branchioſtege membrane contains ſix bones.

Of this genus there is but one known ſpecies, which needs therefore no farther deſcription.

GYMNOTUS.

THE Gymnotus has no back fin: the branchioſtege membrane contains only five bones.

Of this genus alſo there is only one known ſpecies; this is the Carapo of Maregrave, and is ſufficiently diſtinguiſhed by the generical characters, without any farther deſcription.

FISHES.

Claſs the Second.

ACANTHOPTERYGII.

Fiſhes which have the tail perpendicular, and have the rays of the fins bony, and ſome of them prickly, and have the branchiæ oſſiculated.

BLENNIUS.

THE head of the Blennius is compreſſed, uſually obtuſe in the anterior part, and declivous from the eyes to the extremity of the mouth: the body alſo is of a compreſſed figure, and more or leſs variegated in colour: the jaws are covered with large

large lips; there is only one fin on the back, and that is extended from the head to the tail, or nearly ſo: this ſometimes contains ſimple, and often aculeated, rays, and ſometimes there are one or two appendages on the front of the head, toward the eyes: the ventral fins are placed very forward, and contain only two rays; the eyes are covered with a ſkin: the branchioſtege membrane on each ſide contains ſix diſtinct bones.

Blennius ſulco inter oculos, macula magna in pinna dorſi.
The Blennius, with a depreſſion between the eyes, and a large ſpot on the back fin.

The Butterfly-fiſh.

This is an extreamly pretty fiſh; it grows to ſix or ſeven inches in length, and is moderately thick, in proportion: the head is large, and there are two ſmall pinnules on it, one over each eye, but theſe are ſometimes wanting: the eyes are large, and their iris is red: the opening of the mouth is moderately large; the body is ſomewhat compreſſed, but not much ſo; the colour is an elegant mixture of blue, green, and grey, but the laſt is the predominant one: the lateral line is tolerably broad and crooked: the back fin is very long, but not very high toward the hinder extremity; ſome of the rays of it are very ſharp and prickly, others leſs ſo; and there is a large and beautiful ſpot on it, like thoſe ſpots which we call eyes, in the wings of our butterflies, whence the fiſh has it's name: the tail is of a rounded figure, and has twenty-ſix rays: the pectoral fins have each twelve rays; and the ventral ones, which are ſituated anteriorly, have each only two rays: the pinna ani has ſeventeen rays.

This ſpecies is taken in great abundance in the Mediterranean, and, when freſh caught, is extreamly beautiful in it's colours; but they go off in a great meaſure, as it dies; the antients were very well acquainted with it. Athenæus calls it Βλέννος; and Oppian, Βλέννος; Pliny calls it Blennius; Salvian and others, Blennus; others call it Blennus Salviani and Blennus Bellonii; the Italians, Meſoro.

Blennius pinnulis duabus ad oculos, pinna ani oſſiculorum viginti trium.
The Blennius, with two pinnules at the eyes, and twenty-three rays in the pinna ani.

The Gattorugine.

This is alſo a beautiful fiſh; the length it uſually grows to is ſeven or eight inches, and it's thickneſs, in proportion, is moderate: the body is covered with an unctuous, lubricous matte, and is of a beautiful variety of colours: the head is compreſſed and obtuſe; the eyes are large; the opening of the mouth is moderately wide, and the anus is ſituated much nearer the head than the tail: the back fin is very long, and has thirty-one rays, ten or twelve of which are rigid and ſomewhat prickly; in ſome of them there is a black ſpot toward the origin, but not in all: the pectoral fins have each fourteen rays; the ventral ones ſtand very forward, and have only two: the pinna ani has twenty-three rays; the tail is even at the extremity, and has twelve rays; there are two pinnules on the head, one placed over each eye; theſe have uſually four rays each.

This ſpecies is frequent in the Mediterranean, and is ſometimes caught about the ſhores of France, though there it is rarely more than four inches in length. Ray and Willughby call it by it's Venetian name, Gattorugine; Willughby, indeed, adds Alaudis Rondeletio dictis affinis, Exocæto primo Bellonii ſimilis, ſi non idem, or Piſcis Gutturoſus Geſneri.

Blennius maxilla ſuperiore longiore, capite ſummo acuminato.
The Blennius, with the upper jaw longeſt, and the top of the head acuminated.

The Mulgranoc, or Bulcard.

This is like the other Blennii, a very beautiful fiſh; it's length is about ſix or ſeven inches, and it is moderately thick, in proportion: the head is in general compreſſed, but it is alſo depreſſed on the hinder part, and acuminated on the anterior part of the front, ſo that the whole figure of it is very irregular: the eyes are large, and their iris

is red; the opening of the mouth is large, and there are no pinnules over the eyes; the upper jaw falls over the lower, and both are covered with thick lips: the whole body is covered with a lubricous fluid, and the back fin reaches almoſt from the head to the tail: the ground colour of the fiſh is a greyiſh olive, but it is elegantly variegated with tinges of bluiſh, greeniſh, and ſeveral other bright colours, moſt of which go off, in a great meaſure, when it dies: the tail is large, and is circular at the extremity; the back fin has thirty-ſix rays; the pinna ani twenty-eight; the pectoral fins have eleven rays each, and the ventral ones only two.

This ſpecies is caught in the Mediterranean and the Ocean; we have it frequently about the ſhores of Cornwal, and ſome other of the weſtern parts of England. Rondelet, Geſner, Jonſton, and many others call it Alauda non criſtata; Aldrovand, Alauda marina; the Italians call it Galecto; and we, the Bullard.

Blennius criſta capitis tranſverſa cutacea.
The Blennius, with a tranſverſe, cutaceous creſt on the head.

The creſted Alauda.

This is a very pretty fiſh, and it's head is of a very ſingular figure; it is compreſſed, and ſomewhat acuminated on the top, though leſs ſo than that of the former ſpecies; but what gives it the great ſingularity of appearance, is what authors call the creſt; this is a lobe of a triangular figure and cutaceous ſubſtance, red at the edges, and paler elſewhere, and is ſituated between the eyes: the body of the fiſh is variegated with ſeveral bright colours, upon a duſky livid olive: the back fin reaches nearly from the head to the tail; the pectoral fins are larger than in the former ſpecies, and obtuſe; and the belly fins are placed very forward, and have only two bones each.

This ſpecies is frequent in the Mediterranean, and is caught alſo in many other places. Rondeletius calls it Galerita; Jonſton and Aldrovand, Alauda criſtata; Geſner and Willughby, Alauda criſtata ſive Galerita; and Geſner, Alauda criſtata ſive Galerita prima.

Blennius maculis circiter decem nigris, limbo albo, utrinque ad pinnam dorſalem.
The Blennius, with about ten black ſpots, with a white edge, on each ſide, at the root of the back fin.

The Butter-fiſh.

This grows to about ſix inches in length, and an inch in breadth; the body is ſomewhat compreſſed, ſo that it is leſs than that in diameter: it's whole body is elegantly variegated with a reddiſh-brown, a deep olive colour, a bright green, and a deeper and more duſky green and white; and on each ſide, at the root of the back fin, there are ten or twelve elegant, round, black ſpots, each ſurrounded with a white limb or verge: the head is ſmall and compreſſed; the mouth is large and bent upwards; the eyes are ſmall, and are covered with a ſkin; the iris is of a gold yellow, or ſometimes of an orange colour; there is only a ſingle row of teeth in the jaws, but there are ſome bones alſo in the fauces: the ſcales are very minute, and, indeed, on the living fiſh are ſcarce perceptible: the pectoral fins are rounded, and have each eleven rays; their colour is an elegant yellow: the ventral fins ſtand almoſt in the middle of the breaſt, and nearly perpendicular under the others: the back fin runs the whole length of the back, and ſeven or eight of the rays of it are prickly: the pinna ani is long, and of a yellow colour, ſpotted with brown; it has forty rays, and the two firſt of them are aculeated; the tail is roundiſh.

We have this ſpecies in our own ſeas; it is frequently caught upon the coaſt of Cornwal, where our people call it the Butter-fiſh. Authors call it the Gunellus Cornubienſium and Liparis.

The other ſpecies of the Blennius are, 1. The Blennius, with pinniform and bifid cirri under the throat, and with tranſverſe areolæ on the back; this is called by authors the Lumpen Antverpiæ, the Muſtela vulgaris, and the Galea piſcis. 2. The Blennius, with the head and back of a browniſh-yellow, ſpotted with black, and with the pinna ani yellow; this is called by authors Muſtela vivipara, Muſtela marina vivipara, and tertia Muſtelæ ſpecies.

GOBIUS.

THE ventral fins in the Gobius grow together in ſuch a manner, as to form only one ſimple one, which has ſomewhat of the ſhape of a funnel; and theſe are ſituated at the ſame diſtance from the extremity of the head with the pectoral ones: there are two fins on the back, and the anterior one is compoſed of ſubrigid rays: the ſcales are rough; the body is oblong, and the head is ſubcylindric, but ſomewhat depreſſed; the eyes are covered with the common ſkin of the head: the branchioſtege membrane on each ſide contains five very diſtinct bones; theſe are unequal in ſize, for the firſt or uppermoſt, and the fourth, are much broader than the others.

Gobius varius pinna dorſi ſecunda oſſiculorum quatuordecim.

The variegated Gobius, with fourteen rays in the hinder back fin.

The Sea-gudgeon.

This grows to eight inches in length, and it is tolerably thick, in proportion; it is very beautifully variegated in colour, the back and ſides being elegantly tinged with brown, white, yellow, green, blue, and black: the tail, the back fin, and pinna ani are of a pale blue, and the belly and the coverings of the gills are yellow: the eyes ſtand very cloſe to each other, and look upwards; they are covered with one common membrane: their iris is yellow, but not purely ſo, but ſpotted; the mouth is very large, and there are ſharp and ſtrong teeth both in the fauces and the palate, as well as in the jaws: there is a depreſſion or furrow on the back, between the head and the firſt back fin; this fin has only ſix rays; the hinder one has fourteen; the pinna ani alſo has fourteen rays; the pectoral ones each ſeventeen: the whole body of the fiſh is covered with rough ſcales, which, with the beautiful variety of the colouring, make an elegant figure.

This fiſh is frequent in the Mediterranean, and in many other ſeas; it is caught, in great abundance, in the Baltic, and is not very unfrequent about the coaſts of the Weſt of England: the antients were acquainted with this ſpecies. Ariſtotle calls it Κωβιὸν; and Ælian, Oppian, and Athenæus, Κωβιός; Pliny, Columella, and Juvenal call it Gobio; Salvian, Gobio marinus; Bellonius and Geſner, Gobio marinus niger; and Charleton, Gobius, or Cobius, marinus; the Venetians call it Go and Goget.

Gobius linea lutea tranſverſa in ſummo pinnæ dorſalis primæ.

The Gobius, with a yellow, tranſverſe line on the top of the firſt back fin.

The Paganellus.

This grows to about ſix inches in length, and is moderately thick, in proportion; the body is of a rounded figure, but ſomewhat compreſſed: the eyes are ſmall, and ſtand near one another on the top of the head: the head is not large, in proportion to the body, but the mouth is wide, and is very well furniſhed with teeth; there is a depreſſion from the back of the head to the beginning of the back fin, but it is leſs in this ſpecies than in the former: the colour of the body is in general paler than in that ſpecies, but it has the ſame variegations: the ventral fins are connected in a remarkable manner together, and have more of the funnel-like appearance in this, than in any other ſpecies.

We have this very common about the coaſts of the northern parts of England. Rondelet calls it Gobio; and Bellonius and Geſner, Gobius albus; others call it Gobius marinus and Paganellus veterum; Jonſton and Aldrovand call it Paganellus ſive Gobius major ex Geſnero; and the Venetians, Paganello.

Gobius

Gobius pinna ventrali cærulea, ossiculis pinnæ dorsalis primæ assurgentibus.
The Gobius, with the ventral fin blue, and the rays of the back fin assurgent.

The Jozo.

This grows to six or eight inches in length, and to about an inch in diameter: the head is thick, but it is somewhat compressed; the body is rounded, but is also a little compressed; the opening of the mouth is large: the eyes are large, and stand near one another on the upper part of the head; their iris is of a silvery white; the pupil is large and bluish: the colour of the body is a pale bluish-grey; the fins are also of a greyish colour, and the tips of them blue; the belly fins in particular, which are beautifully connected together into the form of a funnel, are entirely blue: the scales are small and rough: the lateral line is broad, conspicuous, and black; the rays of the former, or more anterior, of the back fins, stand up beyond the edge of the membrane.

This species is frequent in the Mediterranean; it was very well known to the antients. Aristotle calls it Κωβιος λευκος; and Athenæus, Κωβιος λευκότερος; Rondelet, Gesner, and others, Gobio and Gobius albus, confounding it with the former species; Willughby calls it Gobius tertius Jozo Romæ Salviani.

Gobius uncialis pinna dorsi secunda ossiculorum septendecim.
The small Gobius, with seventeen rays in the second dorsal fin.

The Aphya Cobites.

This is a very pretty, though a very small, fish: the head is short and somewhat compressed; the body is rounded, and is also somewhat compressed: the length of the whole fish is but about an inch and a half; the mouth is small, and the eyes also are small: there is a small sulcus or depression behind the head, running to the back fin: the scales are small and rough; the colour of the whole body is a pale yellowish-grey. The first of the two back fins has six rays; the second has seventeen: the pectoral fins have each seventeen rays; the ventral ones have only six rays each, and are connected together as in the other species: the pinna ani has eleven rays; the first rays of the first back fin are rigid and prickly: the fins are all of a pale greyish colour, but those of the back and the tail are variegated with transverse lines of brown.

This species is very frequent in the Mediterranean; it swims in vast shoals about the shores there, as our minnows do in the fresh waters: it was very well known to the antients. Aristotle calls it ἡ Κωβίτις; and Athenæus, Ἀφύα κωβίτις; from this name most of the Latin writers have called it Aphya Cobitis; some, Aphya Gobitis and Gobinaria; Gesner and Aldrovand call it Marsio and Marsio Venetorum; the Venetians call it Marsione and Pignoletti. It has been esteemed by many writers to be only the young of some of the larger species; but this is an error, for it never exceeds this size, and it's specific characters are different from those of all the others.

XIPHIAS.

THE rostrum or extremity of the head of the Xiphias is continued forward, with an extreamly long point, of a depressed or somewhat flatted figure, resembling the blade of a sword, and of a bony structure: the body is oblong, and of a rounded figure; there are no belly fins, and on the back there is only one fin, which is very long, and lowest in the middle: the branchiostege membrane, on each side, contains only eight bones.

Of this singular genus there is but one known species.

XIPHIAS. The Sword-fish.

This is a very large fish; about fifteen feet in length is the size of a moderately large one, but it not unfrequently is met with much bigger: the body is of a rounded rather than a flatted figure, and is considerably thick, in proportion to it's length: the

back is convex, and the ſides are rounded; the roſtrum is continued into a very long prominence, of the figure of a ſword, of a bony ſtructure, and ſharp at the point: the lower jaw is acute, and of a ſomewhat triangular figure; the opening of the mouth is not large; there are no teeth in it: there is but one back fin, but it is of a great length, reaching nearly from the head to the tail; it is loweſt in the middle, and has forty-one rays, of which the twenty-five middle ones are very ſhort: the pectoral fins ſtand low, and have ſeventeen rays each; there are no belly fins: the pinna ani is loweſt in the middle, and has fifteen rays: the tail is extreamly forked, or rather it is very deeply lunated: on each ſide, toward the tail, there is a great longitudinal eminence, and the anus is ſituated very near the tail: there are five or ſix cartilages, with rough ſurfaces on each ſide of the jaws, which ſerve in the place of teeth.

This is frequently met with in the American Seas, and in thoſe of ſome other parts of the world; it was well known to the antients. Ariſtotle calls it Xiphias; and Athenæus, Oppian, and Ælian uſe the ſame name; the Latins hence call it alſo Xiphias; and ſome of them, Ziphius and Zifius; Geſner calls it Xiphius, id eſt, Gladius piſcis; Jonſton, Xiphius ſive Gladius; Ray and Willughby, Xiphius piſcis, Latinis Gladius; and many other writers, ſimply, Gladius; the Italians call it peſce Spada; and the Genoeſe, Emperador.

SCOMBER.

THE tail of the Scomber is extreamly forked, ſo as to repreſent the figure of a creſcent: there are, on each ſide, one or more eminences in a longitudinal direction, near the tail: there are on the back, in ſome ſpecies, only two fins; in others there are, beſide theſe, a great number of extreamly ſmall ones toward the tail, as well on the upper as the under part: the branchioſtege membrane contains ſeven ſlender bones; the uppermoſt of theſe is in great part covered by the operculum of the gills.

Scomber pinnulis quinque in extremo dorſo, ſpina brevi ad anum.

The Scomber, with five pinnules at the extremity of the back, and a ſpine at the anus.

The Mackarel.

The head of the Mackarel is large, and of a compreſſed figure: the body is alſo ſomewhat compreſſed, but the ſides are fleſhy and prominent, or rounded; the back is throughout convex, and the belly is alſo convex, but leſs ſo than the back: from the ventral fins to the tail the body grows gradually ſmaller and narrower, but juſt above the tail it is round: the mouth is wide; the jaws are, when the mouth is ſhut, exactly of the ſame length; but, when it is open, the lower appears ſomewhat the longeſt: the roſtrum or anterior part of the head is ſubacute; the upper part of the head is plane, ſmooth, and blackiſh: the noſtrils have a double aperture, and are placed nearer to the eyes than the extremity of the head; the anterior foramen of each is round, open, and conſpicuous; the poſterior is placed at a conſiderable diſtance from this, and is a kind of tranſverſe fiſſure, and uſually is ſhut: both have a large cavity within the head, with which they communicate.

The eyes are large, and placed at a diſtance on the ſides of the head; the pupil is round, and the iris is of a mixt ſilvery, greeniſh, and blackiſh colour; they are naked in the middle, but, both before and behind, they are covered with a ſkin or film.

The coverings of the gills are large, and of a ſilvery colour, and in the hinder part they do not terminate either in a round or acute extremity, but in a kind of ſtraight line: the apertures of the gills are very large: the teeth are very numerous and ſharp; there is a ſingle ſeries of them on the verge of each jaw, and there are alſo two longitudinal lines, one on each ſide, at the edges of the palate, in each of which there are two rows of teeth of the ſame kind: there are alſo, in the upper part of the fauces, four bones of an oblong figure, all of which are extreamly thick ſet with teeth; the hinder pair of theſe are much the largeſt; there are, on the lower part of the fauces alſo, two bones of an oblong figure, which are covered with teeth, but they are leſs rigid than the foregoing: the palate in the middle, and on it's whole anterior part,

part, is ſmooth; the tongue alſo is ſmooth, and it is whitiſh, and in part looſe on the under ſide.

The lateral line is nearer the back than the belly; it is not perfectly ſtraight, but flexuous, and is placed a great deal above the line of the muſcles: the ſcales are very ſmall; they are whitiſh, and are placed in an imbricated manner, and adhere extreame firmly to the ſkin: the belly and ſides below the line are of a fine ſilvery white; from the line to the back there are a number of elegant, broad, oblique, flexuous lines, of a bluiſh, a greeniſh, and a black colour; and the ſpaces between theſe are of a ſilvery hue, with a ſtrong caſt of an elegant bluiſh-green: the outer ſkin of this fiſh is thick, and the inner one extreamly thin, and ſcarce ſeparable from the muſcular fleſh; yet the whole colouring of the fiſh, ſtrong and elegant as it is, is lodged, not in the outer, but in this inner ſkin.

The pectoral fins are blackiſh, and are placed on the ſides, nearer to the back than to the breaſt; they have each twenty rays: the ventral fins are white, and are placed very near one another; they ſtand at a little more diſtance from the head than the pectoral ones, and have each ſix rays: the back fins are two larger, the one not far from the head; this has alſo twelve rays; the other is ſituated at the very extremity of the back, and has eleven or twelve rays: there is a furrow in the back, behind the firſt fin; behind the latter there ſtand ſeveral ſmall pinnules; the firſt of theſe has only one ray, but that is very ramoſe; the others have two rays each: theſe pinnules are connected to one another by a low membrane, and they are alſo connected, by a continuation of the ſame membrane, to the hinder fin of the back, ſo that they may, in ſome degree, be called only a continuation of that fin: the pinna ani is whitiſh, and has thirteen rays; and the anus is much nearer to the head than to the tail: the tail is of the form of a creſcent, and is ſupported by ſeventeen rays, and there are on each ſide two eminences juſt at the tail. The uſual ſize of the mackarel is about a foot, but is ſometimes conſiderably larger: mackarel of twenty inches are ſometimes met with, but they are rare: the vertebræ are large, oblong, and are only twenty-one in number: the ribs are long, and are but ſlightly affixed to the vertebræ; they are eleven or twelve.

This ſpecies is very frequent about our own ſhores; the antients were well acquainted with it. Ariſtotle, Ælian, Athenæus, and Oppian call it Σκομβρος; and from them the Latins, in general, Scomber and Scombrus; the Neapolitans call it Lacerto; the Spaniards, Carallo; we, the Mackarel.

Scomber pinnulis octo vel novem in extremo dorſo, ſulco ad pinnas ventrales.

The Scomber, with eight or nine pinnules on the hinder part of the back, and a furrow at the belly fins.

The Tunny.

This has very much the ſhape and general figure of our common mackarel, but it grows to ſeven feet long: the head is large and ſomewhat compreſſed; the eyes are large; the upper and lower jaw are both of the ſame length: the teeth are numerous; the jaws, the palate, and the bones in the fauces, are all covered with them: there are two large fins on the back, each of which has fourteen rays: the pectoral fins are moderately large, and have each thirty-four rays; the ventral fins have only ſix rays each; the pinna ani has thirteen; behind the hinder back fin there are eight or nine, and ſometimes ten, ſmall pinnules, like thoſe of the common mackarel, on the back; and there are eight ſmaller ones over-againſt them on the belly.

The back of this fiſh is rounded; the ſides are fleſhy and prominent, and the belly alſo is ſomewhat rounded: the lateral line is not perfectly ſtraight: it runs nearer the belly than the back; the tail is very forked; the belly and ſides are of a fine ſilvery white up to the lateral line; above that they have an elegant variety of colouring; and the back is duſky or blackiſh, with a fine ſtrong tinge of green in ſome lights.

This ſpecies is frequent in the Mediterranean; it is eaten freſh in great abundance, and a much larger quantity is pickled in the manner of herrings, and ſent to the ſeveral ports of the Mediterranean, where it is a conſiderable article of commerce: the antients were well acquainted with it. Ariſtotle, Ælian, Athenæus, and Oppian call it Θυννος; and from them the Latin writers, Thunnus and Thynnus, and ſome Thinnus: they have, however, from accidental varieties of the fiſh, deſcribed it under

other names, as if of two different ſpecies, beſide the ordinary one. Under the one of theſe appearances, Ælian, Athenæus, and Oppian call it Ὀρκυνος; and from them Pliny, Geſner, and Aldrovand, Orcynus; Salvian has figured it in this ſtate, under the name of Limoſa. Under another appearance, Ariſtotle, Athenæus, and Oppian have called it Πηλαμὶς; and from hence Pliny, Bellonius, and others have called it Pelamys, and Pelamis vera, Thynnus Ariſtotelis; Gaza calls it Limaria: and, finally, the old Greeks have alſo deſcribed it over-again, under the name of Κόρδυλος; and hence others have called it alſo the Cordylus and Cordyla. All theſe names have been given it, only from the error of ſuppoſing the ſpecies different, when fiſh have been caught of different ſizes, under the full growth.

Scomber linea laterali aculeata, pinna ani oſſiculorum triginta.
The Scomber, with the lateral line prickly, and with thirty rays in the pinna ani.

The Horſe-Mackarel.

This ſpecies is, by the generality of the world, ſuppoſed to be the ſame with the common mackarel; we eat it under the name of the ſame fiſh, but diſtinguiſh it not to be equal in flavour to what we take to be the ſame in a higher ſeaſon; but it is an error; the Horſe-mackarel, as we call it, is a very diſtinct ſpecies, nor has the characters, any more than the taſte, of the common kind.

It's uſual length is about eleven inches, but it will grow to fourteen or fifteen: the head is large and compreſſed; the eyes are large, and their pupil round; the iris is of a ſilvery hue, with a mixture of changeable colours in it: the back is convex, as is alſo the belly; the ſides are ſomewhat prominent, but the body is of a much more compreſſed form than that of the common mackarel: the lateral line is crooked and ſerrated, and there is a furrow or depreſſion in the middle of the back: the mouth is very large, and the teeth are numerous and ſharp; the jaws, the palate, the tongue, and the fauces are all furniſhed with them: there are two fins on the back; the firſt has only eight rays, the ſecond has thirty-four: the pectoral fins have twenty rays each, the ventral ones ſix, and the pinna ani has thirty; the two firſt of theſe are aculeated: the tail is very deeply forked: the back of the fiſh is of a deep blackiſh colour, with an admixture of bluiſh and greeniſh; the ſides are elegantly variegated with blue, green, and black; the belly is of a ſilvery white.

We have this in great abundance in our own ſeas; it is caught, in great quantities, a little before the mackarel-ſeaſon, and is brought to London, where it is ſold under the name of the Horſe-mackarel; we alſo, in ſome places, call it the Scad: the antients were very well acquainted with it. Ariſtotle calls it Σαῦρος; Ælian, Τραχῦρος; Athenæus, Oppian, and Galen alſo call it by the latter name; Paulus Jovius and Salvian call it alſo Saurus; Bellonius, Lacertus ſive Trachurus; Geſner, Lacertorum genus quod Trachurum Græci appellant; others call it ſimply Trachurus and Lacertus; the Italians, Sauro.

Scomber oſſiculo ultimo primæ dorſalis ſecundæ prælongo.
The Scomber, with the laſt ray of the hinder dorſal fin very long.

The Amia.

This is one of thoſe ſpecies which have only the two principal fins on the back, without any of the little pinnules, which in the others run from the hinder fin to the tail: the fiſh is nearly of the ſhape of the common mackarel, but it is greatly larger; it's uſual length is about three feet; it's head is large and compreſſed, and the body is alſo ſomewhat compreſſed, but the ſides are thick and fleſhy: the eyes are large; the anterior apertures of the noſtrils are very conſpicuous: the back is convex, and of a deep bluiſh-black: the ſides are, on the upper part, elegantly variegated with green, blue, and black; and the lower part of them, as alſo the belly, are whitiſh and ſilvery, tho' often there is a ſlight tinge of fleſh colour: the body grows ſmall toward the tail, and is of a ſomewhat ſquared figure in that part: the mouth is large, and well-furniſhed with teeth; they ſtand on the tongue and palate in great numbers, as well as in the jaws and fauces.

The pectoral fins have each twenty rays; the ventral fins have only ſix rays each: the anterior back fin has only five rays, but the poſterior one has thirty-four; this is

loweſt in the middle: the pinna ani has twenty-four rays; this is very much of the figure of the hinder back fin; the tail is very forked.

This ſpecies is frequent in the Mediterranean. Ariſtotle, Ælian, Athenæus, and Oppian call it Αμία; and three of them alſo call it, in other places, Γλαυκος, as if it were of a different ſpecies; Ælian deſcribes it again alſo under the name of Τρώκτης. The Latins in general call it Amia; Iſidore and ſome others, Hamia; Willughby, Amia Salviano; Paulus Jovius, Lechia; and many others, Glaucus. Charleton calls it Glaucus major; Jonſton, Glaucus veterum; Geſner, Glaucus major hexacentrus and Glaucus major ſeu prima ſpecies. Ælian does not give this ſpecies the name of Glaucus, as the other Greeks do, for his Glaucus is a ſpecies of Squalus.

Scomber oſſiculo ſecundo pinnæ dorſalis ſecundæ altiſſimo. **The Glaucus.**
The Scomber, with the ſecond ray of the hinder back fin talleſt.

This is alſo one of the Scombers which have only the two large back fins, and none of the pinnules toward the tail; this is extreamly different from all the other ſpecies in ſhape: the body is broad and thin, and approaches to a rhomboidal form; the head is large and compreſſed; the back is elevated, and there are three or four remarkable brown ſpots on the ſides: the lateral line is nearly ſtraight, for the moſt part of it's courſe; the tail is very broad, and is extreamly forked; ſcarce any other fiſh has it ſo much ſo: the pectoral fins have each eighteen rays, and the belly fins have only five each: the firſt of the two back fins has only ſeven rays, and thoſe very ſhort; the firſt of theſe is bent forwards, the others all turn backward: the hinder back fin has twenty-ſix rays; the pinna ani has twenty-ſeven rays, and two of them are prickly.

It is frequent in the Mediterranean: the generality of authors call it Glaucus; Willughby, Glaucus primus.

MUGIL.

THE ſcales of the Mugil are large, and cover not only the body but the head itſelf to it's very extremity, and alſo the coverings of the gills: the head is of a depreſſed form in the anterior part, and the body is oblong and compreſſed: on each ſide of the head, below the noſtrils, there ſtands a little bone, which is ſerrated on it's lower part: the eyes are not covered with a ſkin, and there are teeth on the tongue and palate, but none in the jaws or fauces: the branchioſtege membrance on each ſide contains ſix officles; theſe are of a crooked figure, and the upper one, which is the broadeſt, is covered by the coverings of the gills in ſuch a manner, that only five appear.

Of this genus there is but one known ſpecies.

MUGIL. **The Mullet.**

The Mullet grows to about a foot in length, ſometimes to conſiderably more, and is moderately broad, and thick, in proportion: the body is ſomewhat compreſſed, eſpecially toward the tail: the head is of a roundiſh figure, but angulated, and is compreſſed, in ſome degree, in manner of the body behind, but in the anterior part it is depreſſed; it's hinder part toward the back is broad and flat, not aſſurgent: the anterior part of the back is ſomewhat angulated, eſpecially toward the head, but from the back fin to the tail it is convex and rounded; the belly, from the head to the ventral fins, is flatted, but from thoſe fins to the tail it is ridged or convex: the mouth is extreamly ſmall, and, when ſhut, the upper jaw is a little longer than the under, and on preſſing bends downward; the verge of the under jaw is thin, and of a bright red, and at it's extremity there is a bony prominence, which is received into a cavity in the upper; this riſes from the bone of the lower jaw: the apertures of the noſtrils are two; they are ſituated ſomewhat nearer the eyes than the extremity of the head: the anterior one on each ſide is ſmall and round; the poſterior large and oblong, and placed tranſverſely: the eyes are roundiſh, and ſtand at a diſtance from one another; they are ſituated near the extremity of the head, and have no covering: the iris is ſilvery; the pupil is round and black: the coverings of the gills are hard and bony, and the

the apertures are large: there is on each ſide under the noſtrils, in the upper jaw, a little bone, which is furniſhed with ſmall teeth on it's under part.

The ſcales of this fiſh are large, and cover not only the body but the head, and ſome part of the fins; they are placed in an elegantly imbricated manner, and are ſmooth, and ſomewhat hard, but not rigid or rough: on the belly and ſides they are of a ſilvery white, and on the back they are greyiſh, with a tinge of brown; they are rounded at their extremities, and ſtriated longitudinally: there is properly no lateral line on this fiſh, but there are ten or eleven longitudinal lines, of a blackiſh colour, which run parallel through the middle of the ſcales, from the head to the tail.

There are two fins on the back: the firſt is ſmall, and ſtands nearly in the middle of the back; this has five prickles, and ſometimes only four: the two anterior ones are largeſt and robuſt; the others are ſofter and flexile: the hinder back fin is at a diſtance from the other, and ſtands about the mid-way, between that and the tail; this alſo is ſmall, and has ten or eleven rays: the firſt of theſe is ſhorteſt, and is aculeated; the third and fourth are longeſt; all of them have a direction toward the tail, and cannot be ſet quite upright: the pectoral fins are placed almoſt tranſverſely under the gills; they have each eighteen rays; the four firſt largeſt, the others very ſmall: the ventral fins are white; they ſtand nearer the pectoral fins than to the anus, and are firmly joined together by a membrane at their baſe; theſe have each ſix rays, of which the firſt is ſhorteſt and prickly, the reſt are ramoſe and longer: there is at the baſe of each of theſe fins a fleſhy appendage, covered with ſcales: the pinna ani is alſo white, and has twelve rays, or ſometimes thirteen; the two or three firſt of theſe are prickly, the others ramoſe, and cannot be raiſed perpendicularly: the anus is much nearer the head than the tail; the tail is forked or ſemicircular, and has fourteen long rays.

The mouth is furniſhed with a number of ſmall teeth: the tongue is cartilaginous, and has a ſeries of them on each ſide, and on each ſide of the palate alſo there is a little bone covered with teeth: on the rim of the upper jaw alſo, behind the ſinuation, there are a number of fine teeth reſembling hairs; but the middle of the palate, the fauces, and the under jaw, are all entirely ſmooth: the fleſh is white and firm, and is very well taſted; it is compoſed of large muſcles, and has no ſpines among it: the vertebræ are oblong and large, and are only twenty-four in number: the ribs are long and large, and are ſomewhat compreſſed; the air-bladder is large and ſimple; it is extended the whole length of the abdomen, and fixed to the back-bone: the heart is large and quadrangular; the liver is ſmall and undivided, but the gall-bladder is large; the ſpleen is long, angular, and black; the inteſtine is three times the length of the fiſh, and has about ten volutions.

The Mullet was well known to the antients. Ariſtotle, Oppian, and Ælian call it Κέφαλος, Κεστρεὺς; and the latter ſometimes, Κέστρεα and Κέστρεος; Gaza calls it Capito; Paulus Jovius, Rondelet, and others, Cephalus; Geſner, Cephalus Mugil and Ceſtreus Mugil; moſt of the other Latin writers, ſimply, Mugil; Charleton, Mugil imberbis; and Salvian, Mugilis; the Italians call it Cefalo.

It is frequent in the Mediterranean, and in our ſeas, and is much eſteemed at our tables.

LABRUS.

THE Labrus has large and thick lips, covering the teeth: the teeth are large, and, beſide thoſe in the jaws, there are in the fauces three hard and thick denticulated bones, one of them placed below, and two above, which are furniſhed with teeth: the palate and tongue, however, are ſmooth: the membrane of the back fin has, in it's anterior part, double rays, growing from the ſame root or baſe; of theſe one is always ſoft, and the other rigid and prickly: the colour of the body is elegantly variegated; the tail, in moſt of the ſpecies, is undivided, and the ſcales are large, ſmooth, and ſoft: the branchioſtege membrane contains ſix ſmall and ſomewhat broad bones, when the fiſh is full grown; but, in the young of moſt ſpecies, there can only be counted five.

Labrus

Labrus roſtro ſurſum reflexo, cauda in extremo circulari.
The Labrus, with the roſtrum turning upward, and the tail circular at the end.

The Wraſſe, or Old-wife.

This is a very beautiful fiſh; it's uſual ſize is about ten inches in length, and it is conſiderably thick, in proportion: the body is ſomewhat compreſſed, and the back elevated; the ſcales are large and very beautiful, and the whole body is elegantly variegated, and, as it were, painted with red, yellow, and brown in ſeveral ſhades: the head is moderately large; the eyes are large, and their pupil round and black: the palate and tongue are ſmooth, but there are numerous teeth in the jaws and fauces: the back fin has twenty-ſix rays, fifteen of which are prickly; the pectoral fins have fourteen rays each, and the ventral ones only ſix: the pinna ani has thirteen, and three of theſe are prickly; the tail is large, and is ſemicircular at the extremity.

This ſpecies is frequent in the Mediterranean, and we have it alſo in our own ſeas in conſiderable plenty. Rondeletius and Geſner call it Turdus duodecimus Vielle dictus; Ray and Willughby, Turdus vulgatiſſimus, Tinca marina Venetis; Athenæus call it Κιχλαὶ and Κορδυφοὶ. On the coaſt of Cornwall, where it is very common, our people call it the Wraſſe, and ſome the Old-wife.

Labrus viridis linea utrinque cærulea.
The green Labrus, with a blue line on each ſide.

The green Turdus.

This is a very beautiful fiſh; it's length is from eight inches to fourteen, and it is conſiderably thick, in proportion: the head is moderately large; the eyes are large, and the noſtrils have each a very conſpicuous, double aperture: the mouth is not very large, and the lips are thick, and the teeth numerous in the jaws; but the palate, tongue, and fauces are ſmooth: the back is elevated, and the anterior part of the belly is alſo elevated a little into a convexity: the colour of the whole fiſh is an extreamly beautiful bright green, variegated with a pale blue line on each ſide; the ſcales are large, and the whole fiſh is ſmooth and ſoft to the touch, having a lubricous fluid all over it: the back fin has thirty rays, and eighteen of them are prickly; the pectoral fins are large, and the tail is undivided: the colour ſometimes varies in this ſpecies.

It is not unfrequently caught almoſt entirely black, and ſometimes ſpotted or tuberculoſe. In theſe two accidentally varied ſtates it has been deſcribed over-again by authors, as if two other ſpecies: in the firſt ſtate Willughby calls it Turdus niger and Merula Salviani; and in the other, Lepas ſive Pſorus Bellonii. In it's more uſual ſtate, the antient Greeks have deſcribed it under the name of Κόττυφος and Κόσσυφος θαλάττιος; and Salvian calls it Verdone: when of it's black colour, a great many have called it Merula; ſome, Merulus and Turdus niger.

Labrus pulchre varius pinnis pectoralibus in extremo rotundis.
The elegantly variegated Labrus, with the pectoral fins round at the extremity.

The Peacock-fiſh.

This is a very beautiful ſpecies: the head is large; the mouth is furniſhed with a great number of teeth in the jaws and fauces, and is cloſed by two thick and fleſhy lips: the eyes are large; the noſtrils have each a double aperture: the anterior round, the hinder oblong and tranſverſe; the ſcales are large, ſoft, and unctuous to the touch: the ground colour of the body is an elegant ſky blue, but it is variegated in a beautiful manner, with red, yellow, and brown, and is one of the brighteſt and gaudieſt-coloured fiſh we are acquainted with: the back fin has twenty-eight rays, and more than half of them are prickly; the pectoral fins are ſhort and broad; the belly fins are narrower, and the tail is not forked, but ſtraight at the extremity.

This beautiful ſpecies is frequent in the Mediterranean, and ſome other ſeas. The generality of writers on fiſhes have, from it's beautiful variety of colours, called it Pavo; Geſner calls it Turdus ſecundus ſive pavo colore ex cæruleo viridi; Bellonius,

Turdus ſimpliciter dictus; Ray and Willughby, Turdus perbelle pictus, or Pavo Salviani; the Italians call it Papægallo. It is apt to vary a little in colour, and under this variation has been deſcribed again by many as another ſpecies. Willughby calls it, in this ſtate, Turdus major varius præcedenti ſimilis; and Artedus, in his Synonyma, Labrus ex flavo et cæruleo varius, dentibus anterioribus majoribus.

Labrus oblongus viridis iride aurea.
The golden-eyed, oblong-bodied, green Labrus.

The great green Turdus.

This is alſo a very beautiful ſpecies: it's head is large, and the lips very thick, firm, and fleſhy; the eyes are large; they ſtand at a conſiderable diſtance: the iris is of a bright gold yellow, and the pupil of a bluiſh black: the body is longer, in proportion to it's thickneſs, than in any other ſpecies: the colour is a deep green, very pure and elegant; it is duſky indeed on the back, and ſomewhat pale toward the belly; it is on the ſides that it ſhews the true tint: the back fin has thirty-two rays, of which nineteen are prickly: the pectoral fins are broad, ſhort, and obtuſe; the tail is large, broad, and not at all forked.

This ſpecies is very frequent in the Mediterranean, and in other places. Willughby calls it Turdus viridis major; Ray, Turdus viridis major corpore oblongo. It varies in colour, and is ſometimes of a duſky brown, ſpotted: in this ſtate it has been deſcribed by authors, as if another ſpecies, under the name of Turdus fuſcus maculoſus.

Labrus tetraodon vireſcens cauda bifurca.
The four-toothed green Turdus, with a forked tail.

The Indian Labrus.

This is a very elegant ſpecies, and is conſiderably different in it's form from the others: the head is large and broad; the mouth is furniſhed with four large teeth in the front of the jaw, which are covered by a pair of thick wrinkled and furrowed lips: the eyes are large; their iris is of a ſilvery hue, and the pupil of an oval figure and blue: the noſtrils have each a double aperture; the anterior one round, and the other oblong and tranſverſe: the back is elevated; the belly flatted, and the ſides are prominent and fleſhy: the colour is a deep ſhining green, blackiſh on the top of the back, and thence growing gradually paler to the belly: the back fin has thirty rays, fourteen of which are prickly; the pectoral fins are ſhort and obtuſe, and the tail is large and forked.

We have this ſpecies ſometimes ſent as a rarity from the Eaſt Indies, but the Pavo of the Mediterranean is greatly ſuperior to it in beauty; it is alſo caught in the Archipelago, and in ſome other ſeas. Liſter and Willughby call it Turdus viridis Indicus; and Aldrovand, Scarus Cretenſis.

Labrus palmaris varius dentibus duobus majoribus maxillæ ſuperioris.
The variegated, ſmall Labrus, with two large teeth in the upper jaw.

This is a very elegant little fiſh; it grows to three or four inches in length, and is conſiderably thick in proportion: the head is ſmall; the mouth is furniſhed with two very large teeth, which ſtand forward, and have their origin both from the upper jaw: the lips cloſe over theſe, and are thick, fleſhy, and firm; the eyes are large, and ſtand at a conſiderable diſtance from one another: the iris is of a flame colour; the pupil is bluiſh and round; the noſtrils have each a double aperture; the loweſt is round, the upper one oblong and tranſverſe: the back fin has twenty-one rays; the pectoral ones have each fourteen; the ventral ones have ſix, and the pinna ani has fourteen: the tail is moderately large, and is even at the extremity: the whole body is covered with large ſcales, and is elegantly variegated with ſhades of ſeveral colours.

The antients were acquainted with this ſpecies. Ariſtotle, Ælian, Oppian, and Galen call it Ιουλὶς; and from them moſt of the Latin writers have called it Julis; Gaza and Salvian, Julia; the Italians call it Douzellina and Zigurella; the Venetians, Donzella; and the people of Marſeilles, Dovella; the Portugueſe call it Zigorella; the people of Crete, Aſdelies; the Neapolitans, Monebina di Re; and the people of Rhodes, Zillo.

Labrus

Labrus maxilla inferiore longiore, cauda bifurca, lineis utrinque tranſverſis nigris.
The Labrus, with the lower jaw longeſt, the tail forked, and tranſverſe black lines on the ſides.

The Channa.

This is a leſs elegant ſpecies, in regard to colour, than ſome of the former: the head is large; the mouth is cloſed by a pair of very thick lips; the eyes are large, and ſtand at a diſtance; the noſtrils have each a double aperture; the lower is round, the upper oblong and tranſverſe; the body is thick, and ſomewhat broad: the ſides are variegated with ſeveral tranſverſe black lines: the back fin has twenty-one rays, ten of which are prickly: the pectoral fins have each of them thirteen rays; the belly fins have ſix rays each, and the pinna ani has nine: the ſcales are large and ſoft, and the whole body is covered with an unctuous fluid.

This ſpecies is frequent in the Mediterranean; and, as it varies in ſize, and ſometimes in colour, it has been deſcribed by authors in general, two or three times over, under as many names, and as if of different ſpecies. In it's more uſual form, Willughby calls it Sachettus Venetorum, or Cannadella Bellonii et Rondeletii; Ray calls it alſo Sachettus Venetorum; and Geſner, Sachetto; Bellonius, Aldrovand, and Jonſton call it Hepatus piſcis; Aldrovand, Channadella, Sachettus Venetis. In it's other varied ſtates Geſner calls it Chanadella, vel Channadella potius, a ſimilitudine Channæ; the Greek writers, Χανὴ, Χαννὴ, and Χαννος; and the Latins from them Channa, Channe, and Channus; Salvian calls it Hatula ſive Canna; the Italians call it Sopracielo; and the Portugueſe, Serrau.

Labrus ex purpuro, viridi-cæruleo, et nigro varius.
The Labrus variegated with purple, greeniſh-blue, and black.

The variegated Scarus.

This is a very beautiful ſpecies: the head is large, and the mouth cloſed with a pair of lips not ſo thick as in ſome of the others, but fleſhy and wrinkled: the eyes are large, and ſtand at a diſtance from one another; their iris is red, and the pupil are round and black: the noſtrils have each a double aperture, and ſtand nearer the eyes than the extremity of the roſtrum: the back is elated; the belly is flat; the ſides are rounded and fleſhy: the ſcales are large and beautiful, and the whole body of the fiſh is elegantly variegated with a deep coppery purple, a bluiſh-green, and a black.

This ſpecies is frequent in the Mediterranean; all the writers on fiſhes have called it Scarus varius.

The other ſpecies of the Labrus are, 1. The forked-tailed Labrus, with the body all over red, called Andias, Anthias, and Sacer by authors 2. The Labrus, called by the Ichthyological writers the common Scaurus. 3. The yellow Labrus, with the back purple and the back fin continued from the head to the tail. This is deſcribed by authors, under the names of Alpheſtus and Cynædus.

SPARUS.

THE coverings of the gills in the Sparus are ſcaly; there are lips which cover the teeth in the ſame manner as in quad rupeds, and the teeth themſelves are either like thoſe of the human head, or elſe like thoſe of a dog; the grinders or molares are like thoſe of quadrupeds; the teeth ſtand only in the jaws and fauces; the palate and the tongue are ſmooth: there is only one back fin; the tail is uſually forked, and the eyes are covered with a lax ſkin.

The ſpecies of this genus are numerous, and may therefore be conveniently arranged under different diviſions, according to the ſhape and figure of the teeth in the jaws.

SPARI.

Diviſion the Firſt.

Thoſe which have the teeth in the jaws ſharp and ſubcylindric.

Sparus dorſo acutiſſimo, linea arcuata aurea inter oculos.
The ſharp-backed Sparus, with a crooked, gold-coloured line between the eyes.

The Gilt Head.

THIS is a very beautiful fiſh: the head is large, and the body is ſomewhat compreſſed: the eyes are large; their iris is whitiſh, but ſometimes tinged with reddiſh or yellowiſh, and the pupil is black: the mouth is large, and the teeth in front are tall, ſlender, rounded, and acute: the lips fall over them, and cover them compleatly, when the mouth is ſhut; the noſtrils have each a double aperture, and ſtand ſomewhat nearer the eyes than the extremity of the head, and in the middle, between the eyes, there runs a beautiful crooked, gold-coloured line, which makes the top of the head look as if gilt: the back is elevated into a very ſharp ridge; the belly alſo is ridged: there is but one fin on the back, and that has twenty-four rays; the pectoral fins have ſeventeen rays each, and the ventral fins have each ſix: the pinna ani has fourteen rays, and the tail is forked: the ground colour of the body is an olive brown, but it is elegantly variegated with a number of different colours.

This ſpecies is frequent in the Mediterranean, and in many other places; the antients were very well acquainted with it. Ariſtotle calls it Χρυσοφόρος; Ælian and Oppian alſo give it the ſame name; Varro and Ovid call it, from the Greeks, Chryſophorus; all the other Latin writers, Aurata: the Italians call it Aurata; the Venetians, Ora; the Spaniards the Dorada; we call it the Gilt Head, the Golden Head, and the Gilt Poll.

Sparus lineis utrinque luteis, longitudinalibus, parallellis, iride argentea.
The ſilver-eyed Sparus, with yellow, longitudinal, parallel lines.

This is alſo a very beautiful fiſh: the head is moderately large; the eyes are large, and their iris of a fine bright ſilvery hue; the pupil is large, and of a deep bluiſh-black; the mouth is large, and the teeth ſharp, but there are no bony tubercles in it, but in their place only a few aſperities or flat roughneſſes: there is but one back fin, which is not very tall; the back is elevated, the belly is ſomewhat flatted; the ſides are fleſhy and prominent: the ground colour of the fiſh is a yellowiſh-brown, but it is elegantly varied with longitudinal lines of a gold yellow running parallel to one another.

This is ſometimes caught in the Mediterranean, but is not very common. Authors have, from the earlieſt times, thought there was ſome reſemblance between the lineations of it's ſides and thoſe of the upper wings of the beetle-kind, and have thence given it it's name. Ariſtotle and Oppian call it Κάνθαρος; Ælian, Κανθάρος θαλάττιος; and the generality of the Latin writers, Cantharus; but Gaza and ſome others, Scarabæus.

Sparus totus rubens iride argentea.
The ſilvery-eyed, red Sparus,

This is alſo a very beautiful fiſh: the head is moderately large; the mouth is not very wide; the teeth are ſharp and rounded, and the lips fleſhy; they fall over them, and perfectly cover them, when the mouth is ſhut: the eyes are beautiful; their iris is of a fine ſilvery white, the pupil black; the body is moderately broad, in proportion to it's length, and is throughout of a ſtrong and elegant red: there is but one fin on the back; the pectoral fins are ſhort and obtuſe; the ventral fins are narrow, acute, and each furniſhed with ſix rays: the pinna ani is long and low, and the tail is very forked.

This is very frequent in the Mediterranean. Ariſtotle, Oppian, and Ælian call it Ἐρυθρινος; and Oppian, in ſome parts of his work alſo, Ξανθος. The Latin writers in

general call it Erythrinus ſive Rubellio; Paulus Jovius, Fragolinus and Pagrus ſive Phagrus; the Venetians call it Albero and Arboro; the Portugueſe, Pagro; and the Italians, Fragolino and Frangolino; the Spaniards, Pagel.

Sparus rubeſcens cute ad radicem pinnarum dorſi et ani in ſinum producta.
The reddiſh Sparus, with the ſkin at the baſe of the back fin, and pinna ani forming a ſinus.

The Sea-bream.

This is a very broad fiſh, in proportion to it's length: the head is not large, but the mouth opens wide, and is well furniſhed with teeth: the eyes are large and beautiful; the noſtrils are conſpicuous, and have each a double aperture; they ſtand at about a middle diſtance between the eyes and the extremity of the head: the back is elevated into a high ridge; the belly alſo is ridged; and at the baſe of the back fin, and of the pinna ani, the ſkin forms a kind of ſinus: the pectoral fins are ſmall and obtuſe; the pinna ani is long and low; the tail is forked, and there are granulous tubercles in the mouth.

This ſpecies is frequent about the coaſts of France, and is ſometimes caught about thoſe of England; the antients were well acquainted with it. Ariſtotle, Ælian, and Athenæus call it Φαγρος; and from hence the Latin writers have alſo called it Phagrus and Pagrus; the French call it Pagre; and we the Sea-bream.

Sparus varius dorſo acuto, dentibus quatuor majoribus.
The variegated Sparus, with a ridged back, and with four large teeth.

The Denter.

This is a very ſingular ſpecies: the head is not very large; the roſtrum is obtuſe, and the body ſomewhat compreſſed and broad, in proportion to it's length: the mouth is not large, but there are four very large teeth in it, which make a ſingular figure: the back is raiſed into an acute ridge; the belly is alſo ridged; the colour is a deep olive brown, but it is elegantly variegated with darker and paler ſpots; the back fin is very long, and has ninety rays in it; the pinna ani has only ten rays: the tail is forked.

This ſpecies is not unfrequent in the Mediterranean; the antients were well acquainted with it. Ariſtotle calls it Συναγρὶς; and Ælian, Συνοδὸν; Athenæus uſes both theſe names; Ovid and Charleton after him call it Synodon; others, Pagrus, Dentex, Dentix, and Dentrix; Bellonius, Dentalis.

Sparus lineis utrinque quatuor argenteis et aureis parallelis longitudinalibus.
The Sparus, with four gold and ſilver-coloured, longitudinal, parallel lines on each ſide.

The Boops.

This is a very beautiful fiſh; the head is large, and the body is not flatted, but rounded, and conſiderably thick, in proportion to it's length: the mouth is moderately large; the teeth are ſharp and ſlender, yet very ſtrong; they are defended by lips which fall over, and perfectly cover them, when the mouth is ſhut: the eyes are large and beautiful; the back is convex, and the belly ſomewhat flatted; the ſides are rounded, fleſhy, and prominent: the body of the fiſh is of a pale colour, but below the lateral line there run on each ſide four very elegant, longitudinal, parallel lines of a gold and ſilver colour: the back fin is long, and has thirty rays; the pinna ani has nineteen rays; the pectoral fins are red.

This ſpecies is frequent in the Mediterranean; the antients were very well acquainted with it. Ariſtotle calls it Βωκὴ; and Oppian and Athenæus, Βῶξ; Pliny calls it Box and Boca; Paulus Jovius, Boca; and Gaza, Voca. Rondelet, Geſner, and Charleton call it Boops; Aldrovand, Boops Bellonii; the Italians and French call it Boga and Bogue.

Sparus varius macula nigricante in medio latere, dentibus quatuor majoribus.

The variegated Sparus, with a black ſpot in the middle of the ſide, and with four large teeth.

The Mæna.

The head of this ſpecies is large, and the coverings of the gills are beſet with ſmall but firm ſcales: the mouth is moderately large, and there are four remarkably large teeth; the lips fall over them however, and perfectly cover them, when the mouth is cloſed: there are other lower teeth in the fauces, but the palate and the tongue are ſmooth: the eyes are large; the apertures of the noſtrils are double, and very conſpicuous: the back is elevated pretty high; the belly is flat; the ſides have each a large black ſpot in their middle: the back fin has twenty-three rays; the pectoral fins have each fifteen rays; the ventral fins have ſix rays each; the pinna ani has twelve, and the tail is a little forked: the whole body of the fiſh is variegated with an elegant admixture of colours, but the ſpots on the ſides are very diſtinct.

This ſpecies is frequent in the Mediterranean, and is caught alſo, ſometimes, on the coaſts of France; the antients were very well acquainted with it. Ariſtotle, Oppian, and Athenæus call it Μαινὶς; Ovid calls it Menerela; almoſt all the other Latin writers, Mæna and Mænais; Gaza, Alec. The Italians call it Mænola.

Sparus macula nigricante in utroque latere medio, pinnis pectoralibus caudaque rubris.

The Sparus, with a black ſpot in the middle of each ſide, and with the pectoral fins and tail red.

The Smaris.

The head is not very large; it is of a compreſſed figure and obtuſe; the eyes are large; the teeth are acute and rounded, and the lips fleſhy and thick: the noſtrils have each a double aperture; the lower one is larger and rounded, the upper oblong and narrow: the back is elevated, and the belly ſomewhat flatted; the ſides are prominent and fleſhy, and have on the middle of each a large black ſpot: the pectoral fins are ſhort and obtuſe, and of a bright red colour; the tail is alſo of the ſame bright red, and is forked.

This ſpecies is frequent in the Mediterranean; the antients were well acquainted with it. Ariſtotle and Oppian call it Smaris; and from them the Latin writers in general call it alſo Smaris and Maris. Charleton calls it Smaris et Maris Leucomænides; Geſner calls it Mæna candida ſive Smaris; and Pliny and Martial, and with them ſome other of the Romans, Cerrus; the Venetians call it Geroli or Gerroli; the Maſſilians, Gerres.

Sparus maxilla ſuperiore longiore, lineis utrinque duodecim nigris, tranſverſis, parallelis.

The Sparus, with the upper jaw longeſt, and with twelve parallel, tranſverſe black lines on each ſide.

The Mormylus.

This is a very ſingularly marked ſpecies: the head is large and ſomewhat compreſſed; the roſtrum is acute, and the upper jaw is ſomewhat longer than the under: the teeth are ſharp and rounded; the lips are thick and fleſhy, and compleatly cover them, when the mouth is cloſed: the back is elevated; the belly is ſomewhat flat; the ſides are prominent, and are beautifully variegated each with twelve black lines, running parallel to one another in a tranſverſe direction: the back fin has twenty-three rays; the pectoral fins have fourteen rays each; the ventral fins have each ſix rays, and the pinna ani has thirteen: the tail is forked.

This ſpecies is frequent in the Mediterranean, as well as in the Archipelago, and many other ſeas; the antients were well acquainted with it; they not only know it at their tables, but uſed it's figure in their ornaments of many kinds. Ariſtotle, Athenæus, and Euſtathius call it Μορμυρ; Oppian, Μορμυλ; Salvian calls it Mormylus; and Ovid, Mormyr. Gaza calls it Mormur, and moſt of the other Latin writers, Mormyrus; the Italians call it Mormillo; the Venetians, Mormiro; and the French, Mormo and Morme.

Sparus oſſiculo ſecundo pinnarum ventralium in longam ſetam producto.
The Sparus, with the ſecond ray of the belly fins extended in in form of a briſtle.

The Chromis.

The head of this ſpecies is of a compreſſed form, acute at the roſtrum, and not very large: the mouth is moderately wide, and the teeth ſmall; the lips are fleſhy and firm; the eyes are large, and ſtand very diſtant; the noſtrils have a double aperture; the anterior on each ſide round, the other oblong and tranſverſe: the back is elevated; the belly ſomewhat flatted, and the ſides prominent and fleſhy: there is on each ſide a black ſpot, at the root of the pectoral fins: the lateral line is faint, and reaches no farther than to the back fin; the tail is forked: the back fin has twenty-three rays; the pinna ani has twelve; the pectoral fins have ſeventeen each; the ventral ones have only ſix.

This ſpecies is frequently caught in the Mediterranean, and ſometimes in our own ſeas, but that more rarely; the antients were very well acquainted with it. Ariſtotle calls it Χρὲμψ, Χρομὶς, and Χρωμις; Ælian and Athenæus call it Χρομὶς; and from them all the Latin writers alſo call it Chromis: Charleton calls it Chromis ſive Chremis; the Italians and Genoeſe call it Caſtagnole; the Sicilians, Monachelle.

Sparus varius macula nigra ad caudam, in extremo æqualem.
The Sparus, with the tail not forked, and with a black ſpot near it.

The Orphus.

This is a very beautiful ſpecies: the head is large, compreſſed, acute at the roſtrum, and of an elegant red colour: the mouth is moderately large, and the teeth are ſlender, rounded, and ſharp; the lips are large and thick; the eyes are large; the apertures of the noſtrils double, and the back part of the top of the head flatted: the body is elegantly variegated with red, brown, yellowiſh, and a fine purple; the back fin has ten prickly rays, and the tail is not forked.

This ſpecies is more frequent in the Archipelago than in any other part of the world; the Greeks were very well acquainted with it. Ariſtotle, Ælian, and Oppian call it Ὀρφὸς; Athenæus, Ὀρφως; Ovid, Pliny, and moſt other of the Latin writers, Orphus; Willughby and Ray call it Orpheus veterum, and Gaza, Cernua.

SPARI.

Diviſion the Second.

Thoſe which have the teeth in the jaws broad, eſpecially at the baſe.

Sparus unicolor flaveſcens, macula nigra annulari ad caudam.
The yellow Sparus, with a black annular mark at the tail.

The Sargus.

THIS is a very elegant ſpecies: the head is large and compreſſed, and the roſtrum acute; the mouth is large, and the teeth are broad and flatted; the lips are large and fleſhy, and the eyes ſtand at a conſiderable diſtance: the back is elevated and ridged; the belly is ſomewhat flat; the whole body is of an elegant yellow colour, without any variegation, except that, near the origin of the tail, there is a beautiful, annular ſpot of a deep black: the back fin has twenty-ſix rays; the pectoral fins have fourteen rays each; the ventral fins have only ſix each, and the pinna ani ſeventeen: the tail is large, and is deeply forked.

This ſpecies is frequent in the gulph of Venice; the antients were very well acquainted with it. Ariſtotle, Ælian, Oppian, and Athenæus call it Σάργος; and from them all the Latin writers Sargus; the Venetians, Sargo.

Sparus lineis longitudinalibus varius, macula nigra utrinque ad caudam.
The Sparus, with longitudinal lines, and with a black spot on each side at the tail.

The Melanurus.

The head of this species is large and compressed; the opening of the mouht is large; the teeth are large, and somewhat broad: the lips are thick, fleshy, and fall over them; the palate and tongue are perfectly smooth, but, beside those in the jaws, there are also teeth in the fauces: the eyes are large, and are covered with a lax skin: the nostrils are conspicuous; they have each a double aperture, and they stand nearly at an equal distance between the eyes and the extremity of the rostrum: the iris of the eye is yellow, and the pupil is round and black: the back is somewhat acute; the belly is a little flatted; the sides are prominent: there is only one back fin, and the tail is forked: the sides of the fish are elegantly variegated with a number of longitudinal lines, and the back is duskier than the rest, or has a blackish tinge in it.

This species is frequently caught about the coasts of Italy; the Greeks were very well acquainted with it. Aristotle, Ælian, Oppian, and Athenæus call it Μελανουρος; the Latins, in general, Melanurus; Gaza, in his comments on Aristotle, Oculata; the Italians, Occhiata; and the Massilians, Oblada.

Sparus lineis utrinque undecim aureis parallelis longitudinalibus.
The Sparus, with eleven parallel, longitudinal, yellow lines on each side.

The Salpa.

The head of the Salpa is large and compressed; the eyes are not large; the opening of the mouth is wide: the lips are thick, and perfectly close over it: the teeth are broad, and those of the upper jaw as bicuspidate, or have a forked apex; the palate and tongue are smooth, but there are other teeth in the fauces: the nostrils have each a double aperture; the anterior one round; the hinder one oblong, in form of a fissure; they are situate somewhat nearer to the eyes, than to the extremity of the rostrum: the back is elevated; the belly is somewhat flat; the back fin is long, and has twelve prickly rays: the skin, at the extremity of the back fin, and of the pinna ani, is continued into an eminence which is sinuous in the middle: the belly fin is long, and the tail is forked.

This species is frequent in the Mediterranean. Aristotle, Ælian, Oppian, and Athenæus call it Σάλπη; and from them all the Latin writers Salpa; the Italians call it Sarpa; the French, Sarpe.

SCIÆNA.

THE whole head of the Sciæna and the coverings of the gills are scaly, and one of the laminæ of these coverings is serrated at the edges: the body is compressed and broad; the back is acute; there are teeth in the jaws and fauces: the palate and tongue are smooth; there is only one fin on the back, but it has the appearance of a bifid one, being divided in the middle to the very base: the tail is equal at the extremity, not forked, lunated, or any way divided.

Sciæna maxilla superiore longiore, inferiore cirrosa.
The Sciæna, with the upper jaw longest, and the under one bearded.

The Umbra.

This is a very large fish: it's length is frequently five feet, and it's weight sixty pounds: the ground colour is a dusky olive, with a tinge of bluish, but it is all over variegated with an admixture of other colours: the scales are moderately large; they stand in an imbricated manner, and are of a roundish figure: the lateral line is crooked; the mouth is small, and there is a black edge to the coverings of the gills: the teeth are small and slender; there are a great many of them in the fauces, beside those in the jaws, but the palate and tongue are smooth; there is in the angle of the lower jaw

jaw a ſingle ſhort cirrus or beard; the upper jaw falls over this at the end of the noſtrils, and have each a double aperture: the lamina of the gills is deeply ſerrated at the edges, and in the extremity of the lower jaw there are three large foramina: the tail is nearly even at the end: the firſt diviſion of the back fin has nine or ten prickles; the other diviſion has twenty-four rays, but only the firſt of them is prickly: the pectoral fins have each fifteen rays; the belly fins have only ſix; the firſt of them ſhort and aculeated: the pinna ani has eight rays, and the firſt of thoſe alſo is aculeated.

This ſpecies is frequently caught in the gulph of Venice; the antients were very well acquainted with it. Ariſtotle calls it Σκιάνα; Ælian, Oppian, and Athenæus, Σκιαίνα; Bellonius calls it Chromis; the generality of the Latin writers, Umbra; Geſner and Aldrovand call it Umbra marina; Paulus Jovius, Umbrina; Salvian, Coracinus; Jonſton, Sciæna ſive umbra; Pliny, Sciena; and the Venetians call it Corvo.

Sciæna ex nigro varia pinnis ventralibus nigerrimis.
The blackiſh, variegated Sciæna, with the belly fins black.

The Umbrino.

The head of this ſpecies is large, and the opening of the mouth much larger than in any other of this genus: both jaws are furniſhed with ſtrong teeth, but the palate and the tongue are ſmooth: the noſtrils have each a double aperture; the anterior one is round, and the poſterior oblong, and they are ſituated about at a middle diſtance between the eyes and the extremity of the head: the back is elevated, and the belly is ſomewhat flatted: there are a number of oblique lines of various colours on the body; the general colour, however, is an olive ſo deep, that it approaches to black: the lateral line runs parallel to the ridge of the back: the firſt diviſion of the back fin has eleven rays in it; the ſecond has twenty-four; the pinna ani has nine rays, two of which are prickly; the pectoral fins have each ſeventeen rays, and the ventral ones only ſix, the firſt of theſe only is aculeated: the tail is nearly equal at the extremity, and is turned naturally upwards.

This ſpecies is frequent in the Mediterranean; the Greeks were well acquainted with it. Ariſtotle, Ælian, Oppian, and Athenæus call it Κορακινος; Rondelet and Geſner call it, Coracinus niger and Coracinus albus; the Italians call it Umbrino and Corvodi fortiera.

PERCA.

THE ſcales of the Perca are hard and rough to the touch, or are armed with a kind of little points at their extremities: the upper lamina of the coverings of the gills is ſerrated at the edge; there are ſometimes two fins on the back, and ſometimes there is only one: the branchioſtege membrane on each ſide has ſeven bones.

The difference of the back fins, in this genus, is ſo conſiderable, that it parts the ſpecies into two diviſions.

PERCÆ.

Diviſion the Firſt.

Thoſe which have two fins on the back.

Perca lineis ſex utrinque nigris tranſverſis, pinnis ventralibus rubris.
The Perca, with ſix black tranſverſe lines on each ſide, and with the belly fins red.

The Pearch.

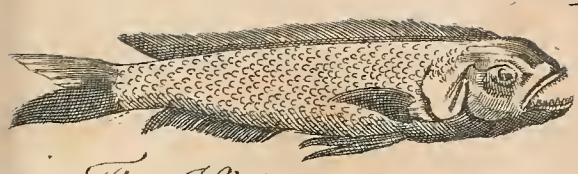
THIS grows, in ſome places, to a foot and a half in length, but it's more uſual ſize is about eight or nine inches in length; it is conſiderably thick, in proportion, and the ſides are fleſhy and prominent: the back is elevated, and ſomewhat acute; the belly, all the way from the head to the anus, is flat: the head is compreſſed; the two jaws are equal in length, but the upper one, when the mouth is ſhut, falls a little way over the other: the opening of the mouth is immoderately large, and both the

jaws are very thick ſet with ſmall teeth; there are alſo in the palate three little ſpaces, which are covered in the ſame manner with teeth: the middle one is ſmall, and is of a triangular figure; the two others are oblong: in the fauces there are four bones, which are, in the ſame manner, rough with numerous teeth: the two upper ones are larger; the under ones ſmaller, and theſe unite or grow into one as it were: the tongue is ſmooth, and is ſomewhat looſe in the under part: the noſtrils are very large, patulous, and nearer the eyes than the extremity of the roſtrum; they have each a double aperture, and are placed at a great diſtance from one another; the anterior aperture has a little valve to cover it: there are on each ſide of the head, between the eyes and the roſtrum, four ducts, the buſineſs of which ſeems to be the ſecreting a mucous fluid: the eyes are large; the iris is of a deep yellow, or of a yellow with an admixture of black: the pupil is oval and greeniſh; the coverings of the gills are formed of four laminæ, of a bony texture, and ſeven broad and crooked ſpines conjoined by a membrane: the upper lamina is ſerrated all the way round it's edge, and the under one is terminated by a bony apophyſis; there are ſome very ſmall ſcales on theſe laminæ, but they do not appear, unleſs on a cloſe examination: the clavicles conſiſt each of four bones; they adhere to the body juſt above the pectoral fins, and the firſt and third of theſe are ſlightly ſerrated round the edges; the others are ſmooth: the breaſt of this fiſh is not naked, as the generality of writers on theſe ſubjects have aſſerted, but is covered with very ſmall ſcales: the lateral line is crooked; it runs near the back, and is bent toward it, and runs all the way much above the line, formed by the interſtices of the muſcles; this is ſtraight, and eaſily viſible; it runs at about an equal diſtance from the back and the belly, along the middle of the fiſh: there are on the ſides ſix tranſverſe lines or zones; theſe are all black, and that which is neareſt the tail is leaſt of all.

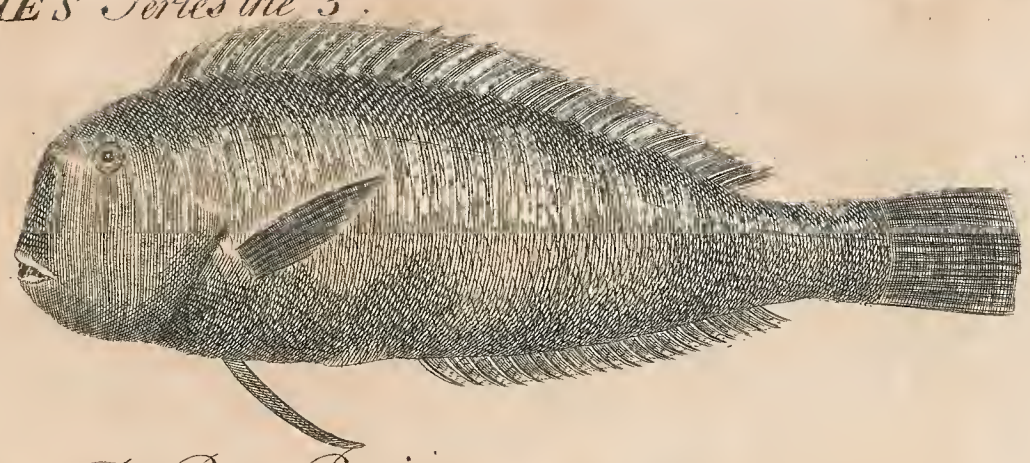
The ſcales of the Pearch are very hard; they are moderately large; they adhere firmly to the ſkin: thoſe on the belly are white; thoſe on the lower part of the ſides of a pale yellowiſh, and thoſe toward the back are darker; they are ſomewhat ſemicircular in figure, and they are armed at the edges with little uncinulæ turning backwards, whence it is that the fiſh ſeems ſo rough, on drawing the hand over it: there are two fins on the back; the former has fourteen, ſometimes, though rarely, fifteen, rays; theſe are all of them prickly, and the laſt or hindermoſt ray is much the ſmalleſt: the membrane of this fin is of a duſky bluiſh-brown, but toward the end there is a large black ſpot: the hinder back fin has ſixteen rays; the firſt of theſe is very ſmall, and is aculeated; the others are longer, and are ſomewhat ramoſe at their extremities: the pectoral fins ſtand not on the belly but on the ſides; they are of a greyiſh-brown colour, and have each fourteen rays; the two firſt and the three laſt of theſe are ſmall and undivided; the intermediate ones are longer, and ramoſe at the extremities; theſe are connected together by a very weak membrane: the belly fins are of a bright and elegant red; they have each ſix rays; the firſt of theſe is ſimple and aculeated, but all the others are ramoſe; they are all of them robuſt at their origin, and the hinder one is connected by a membrane to the belly, ſo that the fins cannot be elevated into a perpendicular direction: the pinna ani is alſo of a ſtrong red, and has twelve rays, ſometimes only eleven; the two firſt of theſe are prickly; the reſt are ramoſe; the hinder ones are very ſmall, and the third and fourth are the longeſt: the tail is ſomewhat forked, and is reddiſh at the end and along the ſides; there are ſeventeen long rays in it: the ovary in the female Pearch is long, ſimple, and undivided, and of a cylindric figure, filling up almoſt the whole cavity of the abdomen: the veſica ſeminalis in the male is double, or is compoſed of two portions conjoined at the bottom: the liver is of a pale red, and is divided into two lobes; the left is the larger, and the gall-bladder is ſituated in the middle between them, and hangs low down: the peritonæum is of a ſilvery white: the ſtomach is very large, and is very diſtinct from the inteſtines, and below the pylorus it has three large vermiform appendages: the inteſtine makes but one volution, and is uſually found deeply covered with fat: the ſpleen is oblong and red; the air-bladder is oblong and ſimple; it is large, and is continued along the whole upper part of the cavity of the abdomen: the ribs are on each ſide nineteen; theſe ſeparate very eaſily from the vertebræ; the vertebræ are forty-one.

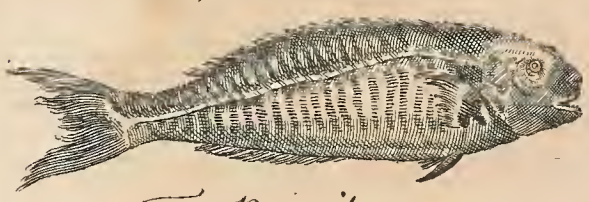
This ſpecies is frequent in all our rivers and freſh waters; it is very voracious, and will ſeize upon roach and other fiſh of a conſiderable ſize: in our rivers, the Pearch uſually grows to about eight inches, but in ſome places it greatly exceeds that

FISHES Series the 3d.



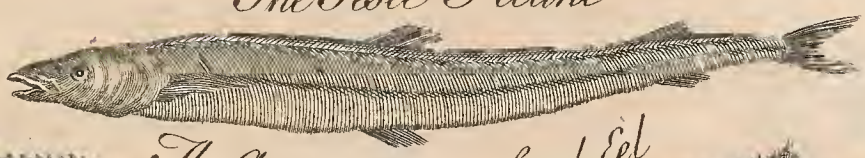
The Hippurus



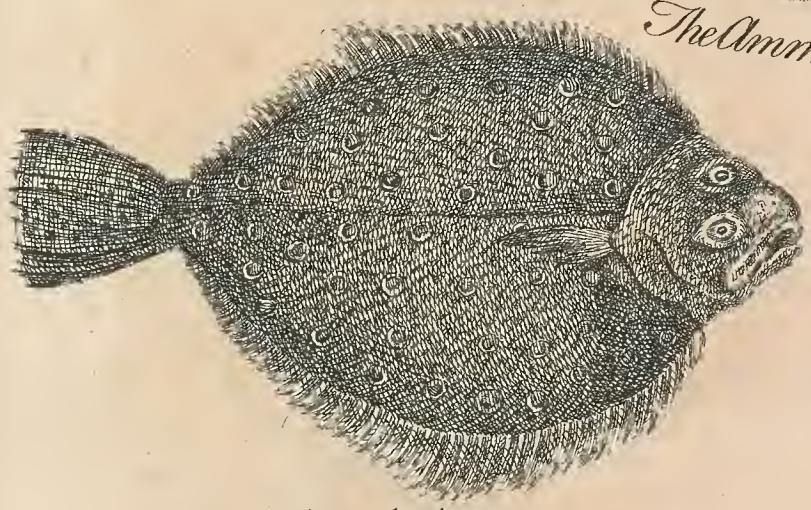


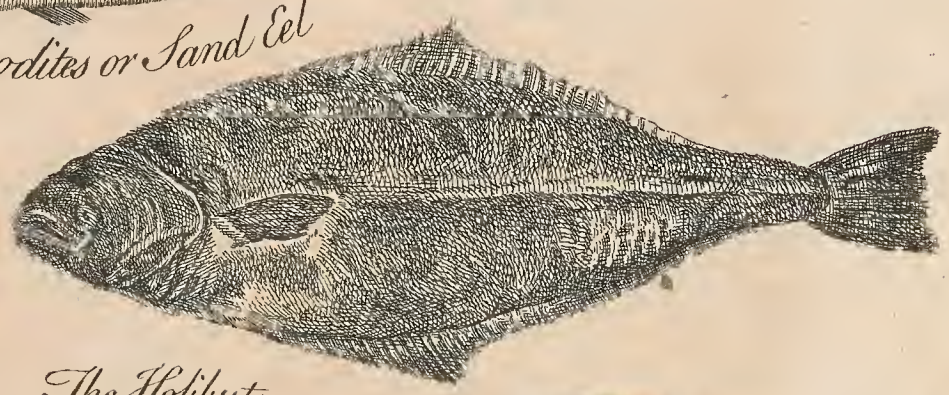
The Pompilus

The Pesce Pectine



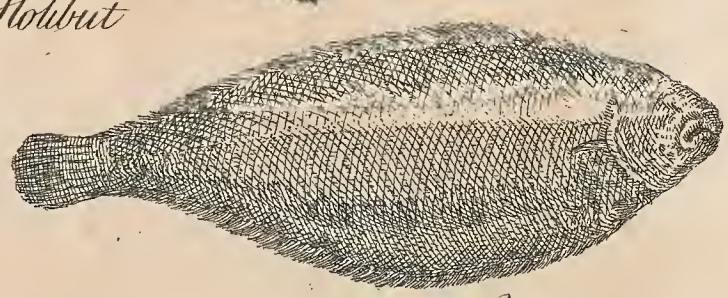
The Ammodites or Sand Eel





The Holibut

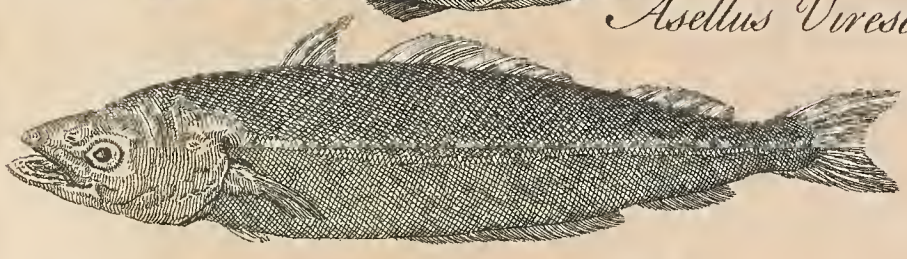
The Turbutt

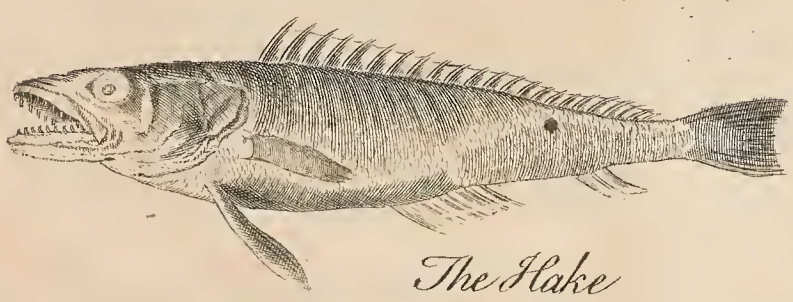


The Soal



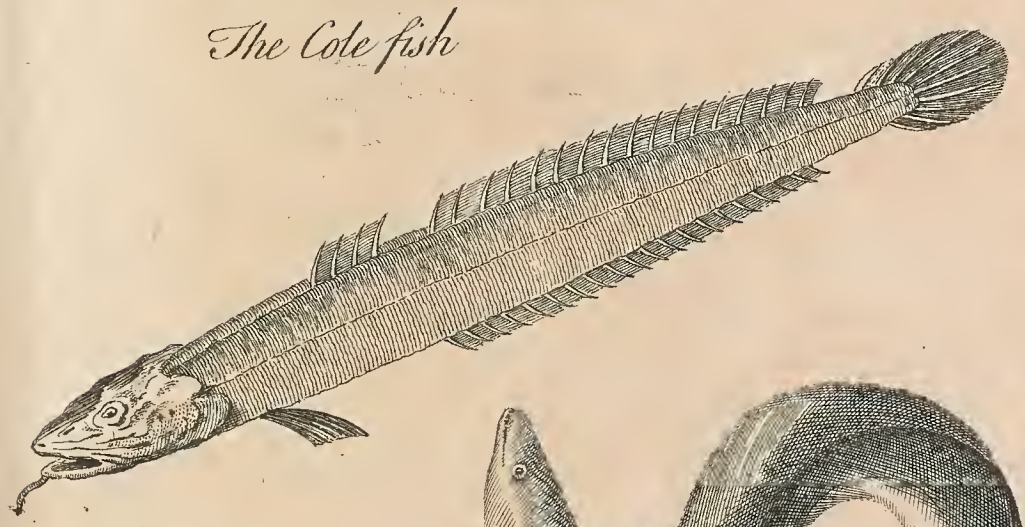
Asellus Virescens

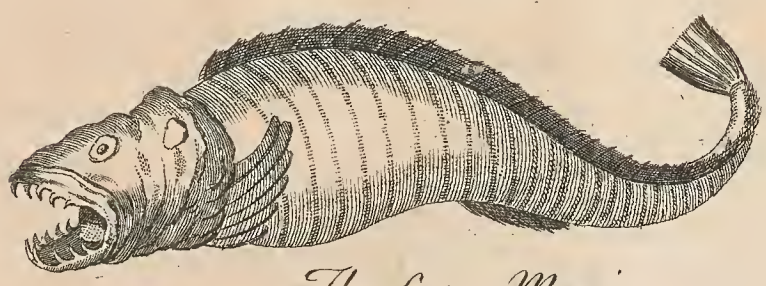




The Cole fish

The Hake



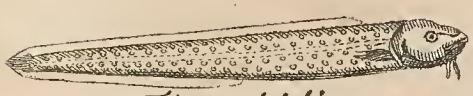


The Lupus Marinus or Sea Wolf.

The Ling



The Eel



The Ophidion



The Conger or Sea Eel

B. Cole Sculp

ſize. I was the laſt ſummer fiſhing for pike on Whitleſea-meer in Cambridgeſhire; we laid only large baits that we might not take ſmall fiſh, and yet the greater part of theſe were taken by Pearch inſtead of pike; few of theſe were leſs than a foot in length, and ſome of them conſiderably more. In Germany they have them ſtill larger.

The antients were very well acquainted with this fiſh. Ariſtotle, Ælian, and Athenæus call it Περκὴ; the Latin writers in general Perca; Wooton, Bellonius, &c. Perca fluviatilis; Aldrovand, Perca fluviatilis major; and Schoneveldt, Jonſton, and others, Perca major: the Italians call it Perſego; the Germans, Borfiſch.

Perca pallida maculoſa dentibus duobus utrinque majoribus.

The pale ſpotted Perca, with two large teeth on each ſide.

The Lucipercа, or Braſſe.

This is a conſiderably large ſpecies; it grows frequently to two feet in length, and ſometimes to conſiderably more than that: the head is compreſſed and large, and the opening of the mouth is very large, but not ſo enormouſly great, in proportion to the ſize of the fiſh, as in the common pearch: the breaſt is flat, but the belly is convex; the head is narrower and longer, in proportion, than in the common pearch: the back is convex, but it is not elevated as in that ſpecies, and the body toward the tail is more long and ſlender: the noſtrils are large, and have each a double aperture; the anterior is round, and has a little valve: the eyes are very large, and are of a ſomewhat elliptic figure; they ſtand at a great diſtance from one another: the pupil is roundiſh; the iris is of a mixt ſilvery, yellowiſh, and blackiſh-blue: the upper jaw, when the mouth is ſhut, falls a little way over the under, but it is very inconſiderable: the coverings of the gills are long; they are compoſed of four bones, ſeeming to form only two larger, as is the caſe in the common pearch, and of ſeven crooked officula connected by a membrane: the lamina, which is neareſt the eye, is large, and is ſerrated round it's lower edges, and aculeated; and the lower lamina is alſo ſerrated a little, and does not terminate in a bony apophyſis, as in the common pearch: three of the laminæ are covered with ſmall ſcales, but this is moſt diſtinctly viſible in the full-grown fiſh; the clavicles conſiſt each of four bones, the loweſt or largeſt of which has it's origin below that of the pectoral fin, and the firſt and third are ſomewhat acute.

The head is blackiſh on the upper part, and has there a long depreſſion or furrow, reaching from the noſtrils nearly to the back; from the extremity of this to the back fin there runs alſo a narrower furrow, but this is not ſo conſpicuous: the lateral line is ſtraight, and runs much nearer the back than the belly: the ſcales are hard and rough, and are ſtriated in their hinder part; thoſe on the belly are white, and on the ſides they are of a white colour alſo, but tinged in an elegant manner, with a caſt of a gold yellow and a ſilvery white; on the back the colour is a duſky greyiſh-brown, and there are in this part a great many oblong black ſpots, partly placed tranſverſely, and partly quite without order.

The teeth in both the jaws are of an equal ſize: in the upper jaw there are two very large and long ones near the extremity, but with a ſpace between them; behind theſe the jaw is furniſhed each way with a ſingle ſeries of ſmaller teeth, and between the two great ones in the front there are two ſmaller, which, when the mouth is cloſed, ſtand out beyond the lower jaw: the lower jaw has alſo, near it's extremity, ſometimes two large teeth on a ſide, ſometimes only one; theſe form to themſelves a kind of cavity in the upper jaw, and between them there is alſo a vacant ſpace, and behind them, each way, there runs a ſingle row of teeth, ſmaller but unequal: on the anterior part of the palate there alſo ſtand two large teeth, with two, three, or more ſmaller ones between them; on the extream verge of the palate, each way, there is a ſingle row of ſmall teeth; the reſt of the palate is ſmooth; in the fauces alſo there are ſeveral bones furniſhed with teeth: there are two large and roundiſh ones on the upper part, and on the lower there are ſix ſmaller, all covered with teeth, and ſo ſituated, with regard to one another, that they ſeem to form only two larger bones of an oblong form.

The tongue is white, ſmooth, and looſe, not faſtened down to the jaw, as in many other ſpecies: the pectoral fins are whitiſh; they have ſixteen rays each; they

are

are joined by a very thin and weak membrane, and are ſmall, in proportion to the ſize of the fiſh: the belly fins are whitiſh, with ſome ſpots of a blackiſh-grey, and with the admixture alſo of a little red; they have each ſix rays, and the firſt of theſe is prickly; they are all thick and robuſt at their origin: the firſt back fin is elegantly variegated with ſpots of a deep black, and of a greyiſh-yellow; it has fourteen rays, and all of them are robuſt and prickly: the hinder back fin is of a greyiſh-colour, with ſmaller ſpots of black and of yellow; this has twenty-three rays; the two firſt of theſe are prickly, the others are ramoſe: the pinna ani is white, but it is variegated with very minute black ſpots, and has fourteen rays, the two firſt of which are prickly: the tail is forked.

The breaſt of this fiſh has been ſaid, by ſome, to be naked, but it is covered with ſcales: the liver is red; it is principally in the left ſide, and is divided into two large lobes, and ſome ſmaller apophyſes: the gall-bladder is ſmall and yellow; the ſtomach is moderately large and oblong, and has ſix appendages below the pylorus; theſe are large and red, and both theſe and the ſtomach are uſually found full of a thick, white chyle: the inteſtine makes but one turn, but it has a great variety of convolutions in that courſe, and is uſually covered very thick with fat: the ſpleen is of an oblong, triangular form, and a duſky red colour, and is placed near the inteſtine: the ovaries in the females ſeem two diſtinct ones placed one on each ſide, but, when more cloſely examined, they are found to coaleſce at the bottom; theſe are, at the ſeaſon, diſtended with a vaſt number of yellowiſh, white ovula, and the vulva is ſituated juſt below the anus: the air-bladder is long and thick, and is extended along the back-bone; it is divided into two parts, as it were, at top, in the manner of a heart at cards: the pneumatic duct is ſituated at it's anterior and upper part; the peritonæum is of a ſilvery colour, and the fleſh of the fiſh is white, firm, and well taſted.

It is an extreamly voracious fiſh, and will ſeize almoſt on any thing: it is very frequent in the Northern ſeas. Geſner call it, Piſcis quem Schilum Germani vocant, alii Nagemulum; Aldrovand retains the ſame name for it; Ray, Willughby, and ſeveral others call it Lucio-perca, or the Pike-pearch; Johnſton, Schilus; and Charleton, Schilus ſive Nagemulus. The Swedes call it Gios; and the Germans, in different places, Sandat, Schindel, and Nagemaul.

Perca lineis utrinque octo vel novem tranſverſis nigris.
The Perca, with eight or nine black tranſverſe lines on each ſide.

This is a ſmall ſpecies: the head is large, and of a ſomewhat depreſſed form at the top; the eyes are large, and ſtand at a diſtance: the noſtrils are ſituated at a ſmall diſtance below them, and have each a double aperture: the mouth is very large, in proportion to the bulk of the fiſh, and is furniſhed with a great number of ſharp teeth: the back is ſomewhat ridged; the ſides are prominent, and the belly, from the gills to the anus, is ſomewhat flatted: the colour on the back is a deep blackiſh-brown; the ſides are of the ſame colour, only much paler, and with a caſt of yellowiſh, and have each eight or nine tranſverſe black ſtreaks on them: the firſt of the two back fins has eight rays; the ſecond has thirteen: the pectoral fins have each fourteen rays, and the pinna ani has twelve: the belly fins have only five each.

This is very frequent in France, and in ſome parts of Germany. Ray, Willughby, Jonſton, and many other writers have called it Aſper piſciculus, a name which they have alſo given to the common Stittle-back or Gaſteroſteus, with ſome confuſion; Geſner and Aldrovand call it Aſper piſciculus Gobioni ſimilis, which diſtinguiſhes it from the other Aſper piſciculus. Geſner, in ſome of his works alſo, calls it Gobius aſper.

Perca radiis pinnæ dorſalis ſecundæ tredecim, ani quatuordecim.
The Perca, with thirteen rays in the ſecond back fin, and fourteen in the pinna ani.

The Baſſe.

This is a very ſingular and a very large ſpecies; it grows to three feet in length, and is moderately thick, in proportion, and it's general figure ſomewhat reſembles the ſalmon: the ſcales are large, and adhere very firmly: the back is of a deep blackiſh colour,

colour, and the belly is of a ſilvery white: the opening of the mouth is very large; there are teeth in the jaws, and on the palate, and in the fauces, and a rough bone runs all the way along the middle of the tongue: the noſtrils are conſpicuous, and have each a double aperture: the eyes are large, and ſtand at a diſtance; they are covered with a ſkin that adheres very firmly to them, and their iris is of a ſilvery white, but with a little circle of yellow: the tail is ſomewhat forked, but not much ſo: there are two ſhort ſpines at the pectoral fins, and at the angles of the branchiæ there is, on each ſide, a ſingle one larger than the others: the middle lamina of the coverings of the gills is ſerrated round the edges, and has three large denticles beyond the angle: the firſt back fin has nine rays; the ſecond has thirteen: the pectoral fins have each fifteen; the ventral ones have ſix each, and the pinna ani has fourteen, of which the three former are prickly: the pylorus has five or ſix appendages; the air-bladder is affixed to the back.

This ſpecies is frequent in the Mediterranean, and in ſome other ſeas; we have it about our own coaſts: it is a very voracious fiſh: it's fleſh is firm, and extreamly well taſted: the antients were well acquainted with it. Ariſtotle, Ælian, Athenæus, and Oppian call it Λάβραξ; and Ovid, Varro, Pliny, and from theſe Ray, Willughby, and almoſt all the modern writers, have called it Lupus; ſome Lupus vulgaris; others, Lupus marinus; Paulus Jovius, Spigola ſive Lupus. The Italians call it Spigola; the Venetians, Bronchini; the Spaniards, Lupo; the French, Lubin; and we, the Baſſe. The giving this ſpecies of Perca the name of Lupus has, however, occaſioned ſome confuſion, as that name is alſo given to the Anarrhicas.

P E R C Æ.

Diviſion the Second.

Thoſe which have only one fin on the back.

Perca dorſo monopterygio, capite cavernoſo.
The Perca, with a cavernous head, and with only one fin on the back.

The Ruff.

THE uſual ſize to which this ſpecies arrives is four or five inches, though ſometimes it will grow conſiderably larger: the head is, in it's general form, compreſſed, but it is flatted a little between the eyes, and thence to the mouth it is ſomewhat declivous, and it has a great number of cavities or cavernulæ depreſſed on it's upper part, and on both ſides, and ſome on the lower; it is theſe hollows that have given riſe to it's being called the Hollow-head in ſome places: the back is ſomewhat acute; the breaſt and belly are flatted: the breaſt appears to be wholly naked, or without ſcales; the jaws are both of the ſame length, and the opening of the mouth is conſiderably large: the eyes are large, and of a variety of colours; the noſtrils are alſo large, and ſtand about the midway between the eyes and the extremity of the head; they are always full of a mucous humour, and the whole body of the fiſh is, indeed, covered with the ſame matter.

The teeth are ſmall, but numerous; there is a row of them in each jaw, and on the anterior part of the palate, toward the roſtrum, there are a number of teeth ſo minute, that they can ſcarce be ſeen, but they are very eaſily felt; and the reſt of the palate is all ſmooth; in the upper part of the fauces there are two bones, the ſurfaces of which are alſo covered with teeth; and on the lower part, near the gills, there are two others, which are alſo covered with teeth; theſe, as well as the former, ſtand ſo cloſe, that they ſeem to form only one bone of the two.

The lateral line is ſomewhat crooked. The colour of the fiſh is a browniſh-yellow, and there are, on the back and ſides, a number of black ſpots of different ſhapes and ſizes; theſe, though very conſpicuous, are not in the ſcales, but in the ſkin which is under them.

There is only one fin on the back, and this has twenty-eight rays, ſometimes one or two leſs; the fourteen or fifteen anterior ones of theſe are prickly: the pectoral fins have each fifteen rays, and the belly fins have each ſix; the pinna ani has eight rays, of which the two firſt are ſtrong, firm, and prickly: the tail is ſomewhat forked, but

it is not deeply ſo; and the membranes of all the fins have black ſpots in them, eſpecially in the back fin; thoſe on the others are ſmaller as well as fewer.

This ſpecies is frequent in the rivers and lakes in many parts of Germany, and in France and England; and it is caught alſo ſometimes at ſea: the antients were well acquainted with it. Athenæus calls it Χοῖρος ποτάμιος; and Ælian, Χοῖρος; Pliny calls it Acerina; Bellonius, Geſner, Ray, and Willughby, Cernua fluviatilis; Charleton, Cernua fluviatilis, aliis Perca minor; Geſner, Percæ fluviatilis genus minus; and, in other parts of his writings, Porcus fluviatilis and Cernua fluviatilis. Tragus calls it Aurata fluviatilis; J. Caius, Aſpredo; and Schoneveldt adds to it's other names thoſe of Porculus and Porcellus. The Swedes call it Giers; the Danes, Horch; the Germans, Kaulbraſs, Stuerbraſs, and Stuer; the Dutch, Poſch and Poſt; we call it a Ruff or Rough.

The writers on fiſhes have deſcribed what they ſuppoſe another ſpecies, under the name of Piſcis Danubii quem Ichrol Germani vocant; but it is the ſame, in all reſpects, with the common Ruff, only it grows larger in the Danube.

Perca lineis utrinque tranſverſis ſeptem nigris, ductibus cæruleis et rubris in capite et ventre.

The Perca, with ſeven black tranſverſe lines on each ſide, and red and blue marks on the head and belly.

The Sea-Pearch.

This is a larger ſpecies; it grows to a foot, or more, in length, and the body is of the general form of the common pearch, but not quite ſo thick: the mouth is very large, and almoſt always open: the back is ridged; and the belly, from the gills to the anus, is ſomewhat flatted: the head is large, and toward the back part, and from thence, a part of the body is of an elegant reddiſh colour, and is variegated with a great number of beautiful bluiſh and reddiſh lines; and there are alſo lines and ſtreaks of both theſe elegant colours on the anterior part of the belly, and on the ſides there are ſeven large black lines.

The back fin has twenty-five rays, ten of which are ſhort and prickly, the other fifteen longer and weak: the pinna ani has ten rays, three of which are prickly, the others not: the pectoral fins are yellowiſh, and the belly fins rather of a whitiſh-grey, but ſtill with ſome tinge of yellow in it: the tail is not forked or lunated, but plain and undivided: the apertures of the gills are extreamly large, and are yellow on the inſide: the eyes are large, and ſtand at a conſiderable diſtance; and the noſtrils have each a double aperture, and are ſituated near them; there are ſharp teeth in the palate, and in the fauces as well as in the jaws: the tongue is long aud ſmooth; the middle lamina of the coverings of the gills is denticulated or ſerrated round the edge, and in the exterior angle of the lamina there are two large ſpines: the ſcales are moderately large; the lower part of the belly is prominent; the ſtomach is very large, and the air-bladder is of an oblong form, and is conſiderably large, and it's membrane firm and tough.

This ſpecies is frequent in the Mediterranean: it was very well known to the antients, and by them diſtinguiſhed by the ſimple name of Perca. Ariſtotle, Athenæus, Ælian, Oppian, and Galen call it ſimply Περκὴ; Ovid, Pliny, Paulus Jovius, and ſome of the later writers, Perca; but Ray, Willughby, and the reſt, Perca marina and Perca pelagia; the Italians call it Percia. Aldrovand, and after him ſome others, have figured and deſcribed two or three other ſpecies, as they call them, of the Percæ marinæ; but the only differences they mention are, in point of colour, and thoſe will happen by accidents in the ſame ſpecies. The other parts of their deſcriptions prove that they are all the ſame ſpecies as the common Sea-pearch.

Perca dorſo monopterygio, lineis utrinque longitudinalibus nigris.

The Perca, with one fin on the back, and with longitudinal black lines on the ſides.

The Schraitſer.

This is the thickeſt, in proportion to it's length, of any of the ſpecies: the head is large, and the opening of the mouth is wide; the eyes are large, and their pupil round,

and of a bluiſh-black; the iris is uſually yellow: the noſtrils have each a double aperture, and ſtand a little below the eyes; the back is ridged; the belly is flattiſh, but ſomewhat prominent toward the lower part, and the ſides are very rounded and prominent: the colour is a duſky brown, with an admixture of yelloviſh, and on the ſides there are longitudinal black lines: the back fin has thirty rays, eighteen of which are prickly: the pectoral fins have ſixteen rays each; the belly fins have each ſix rays, and the pinna ani has eight; the two anterior ones prickly, the reſt ſoft and weak.

This ſpecies is frequent in Germany, and ſome other parts of Europe, but we have it not in England. Authors in general have deſcribed it, but that ſo variouſly, that the greater part of them ſeem not to have ſeen it. Ray, Willughby, and others call it Schraitſer Ratiſbonenſibus.

TRACHINUS.

THE head of the Trachinus has always certain rough tubercles on it, and there is either a ſingle ſpine, or more, at the upper angle of the coverings of the gills: the eyes are placed near one another, in the upper part of the head: there are two back fins, and the firſt of them is very ſhort. When the fiſh is opened, there are always found eight, ten, or twelve appendiculæ at the pylorus.

Trachinus maxilla inferiore longiore cirris deſtituta. **The Weever.**
The Trachinus, with the lower jaw longeſt, and without beards.

This grows to ſix or eight inches in length, ſometimes to conſiderably more, and is moderately thick, in proportion: the head is large, and ſomewhat compreſſed; the eyes ſtand near one another at the top of it, and the iris is of a gold yellow: the noſtrils are conſpicuous, and have each a double aperture: the body is compreſſed, and the lateral line is ſtraight; there is on each ſide, at the opercula or coverings of the gills, a large and robuſt ſpine; the tail is ſcarce at all forked: the firſt back fin has five prickly rays, which inflict an invenomed wound; the ſecond has thirty-one rays: the pectoral fins have each ſixteen rays, and the pinna ani has thirty-two: the three anterior rays of the pectoral fins are ramoſe.

This ſpecies is frequent in the Mediterranean, and in our own and other ſeas; the antients were very well acquainted with it. Ariſtotle, Ælian, and Oppian call it Δράκων; Ælian, Δράκων Θαλάττιον; Pliny, Bellonius, Salvian, and others call it Draco marinus; Rondelet, Jonſton, and ſome others, ſimply, Draco; others, Araneus piſcis; Geſner, Draco ſive Araneus Plinii; and Schoneveldt, Araneus vel Draco marinus; Iſidore calls it Aranea; and Paulus Jovius, Trachurus, Trachina, and Trachidna. The Swedes and Danes call it Fjarſing; the Italians, Peſce Ragno; the French, Viver; and we, the Weever. Geſner, Aldrovand, and others deſcribe what they call other ſpecies of this fiſh, under the names of Draco major, Draco minor, and Aranei ſive Draconis marini ſpecies altera; but they have led one another into this miſtake: there is no other ſpecies but this, and what they thus figure and deſcribe are only rieties from the different periods of growth and other accidents.

Trachinus cirris multis in maxilla inferiore. **The Star-gazer.**
The Trachinus, with numerous cirri on the under jaw.

This is a fiſh of an extreamly ſingular figure; the body is rounded, or, if any thing, a little depreſſed: the back is broad; the ſides are prominent, and the belly is ſomewhat flatted: the head is large and depreſſed; the mouth is wide, and of a very ſingular figure, being divided, as it were, into three ſpines under the tongue, and the lower jaw turning upwards: the eyes are large, and ſtand near one another, not on the ſides, but on the top of the head, ſo that the fiſh naturally looks ſtraight upward; their iris is of a gold yellow; the pupil is of a bluiſh-black: the noſtrils are conſpicuous; they have each a double aperture, and are placed at ſome diſtance under the eyes: the whole head and the coverings of the gills are beſet with a great number of rough and ſharp tubercles: there are two back fins; the firſt has three prickly rays; the ſecond has

has fourteen: the pectoral fins have each ſixteen rays; the ventral ones have each five, and the pinna ani has thirteen.

This ſpecies was well known to the antients. Ariſtotle and Ælian call it Callyonymus; Athenæus, Οὐρανοσκόπος; Athenæus, Ἄγνος; and Oppian, Ἡμεροκοίτης; Pliny and many of the Latin writers call it Uranoſcopus; others, Callyonymus; Geſner and others, Callyonymus ſive Uranoſcopus; and Gaza, Pulcher piſcis. It is caught in the Mediterranean, and is called upon the coaſts there Meſoro, Lucerne, and Peſce prete, Bona, Tapecon, and Raſpecon.

TRIGLA.

THE head of the Trigla is very declivous from the vertex to the roſtrum: it is large, and of a figure approaching to ſquare, and is uſually beſet with tubercles or prickles: the body grows gradually ſmaller from the head, till it terminates in a very ſlender tail. In many of the ſpecies of this genus, there are two or three articulated appendages under the pectoral fins: the eyes ſtand near together, on the top of the head, and are covered with a cuticle: there are two fins on the back, the anterior one of which is aculeated: the pectoral fins, in ſome of the ſpecies, are very large; in ſome, indeed, they are ſo long, that the fiſh can fly above the ſurface of the water, by means of them, in the manner of what is uſually called the Flying-fiſh, or Exocætus: and many of the ſpecies have a power of making an odd noiſe.

Trigla capite glabro, cirris geminis in maxilla inferiore.
The Trigla, with a ſmooth head, and with two cirri on the lower jaw.

The bearded Mullet.

The head of this ſpecies is remarkably large, and of a ſtrangely irregular figure, angulated, but not prickly: the opening of the mouth is large, and there are rows of teeth, not only in the jaws, but deep in the fauces, and on the palate: the eyes are large, and ſtand near one another on the top of the head; the colour of the whole fiſh is a duſky yellow: the body is large toward the head, but it diminiſhes gradually in ſize to the other extremity, where it is very ſmall: the back is convex; the ſides are prominent and fleſhy, and the belly is ſomewhat flat: the ſcales are large and beautiful, but they adhere ſo looſely, that the leaſt force wipes them off: the firſt of the two back fins has ſeven prickly rays, the firſt of which is the talleſt; the ſecond fin of the back has nine rays, which are all ſoft and ramoſe: the pectoral fins have ſixteen rays; the ventral fins ſtand at the ſame diſtance from the extremity of the head with theſe, and have ſix rays each: the pinna ani has ſeven rays; the tail is forked, and has ſeventeen rays; the appendages of the pylorus are twenty-ſix.

This ſpecies is frequent in the Mediterranean, and is caught in a particular abundance about the coaſt of Italy: the antients were well acquainted with it. Ariſtotle, Ælian, Oppian, and Athenæus call it Τρίγλη; Ovid, Columella, Pliny, and all the old Latin writers, Mullus; Ray, Willughby, and many of the moderns have alſo retained the ſame name; others call it Mulus; and ſome, Mullus minor and Mullus barbatus; Salvian, Mullus ſive Mulus minor.

Trigla capite glabro, lineis utrinque quatuor longitudinalibus luteis.
The Trigla, with a ſmooth head, and with four yellow longitudinal lines.

The Surmullet.

This is a very beautiful ſpecies; it grows to more than a foot in length, and is very elegantly variegated, and, as it were, painted: the head is large, ſomewhat depreſſed, and of a kind of ſquare figure: the mouth is wide, and there are teeth in the fauces and on the palate, as well as in the jaws: the eyes are large, and very beautiful; their iris is of a fine ſcarlet; they ſtand near one another on the top of the head, and at ſome diſtance below them ſtand the noſtrils, which have each a double aperture: the body is thick near the head, but it grows taper to the tail, where it is very ſmall: the back is ſomewhat depreſſed; the ſides are prominent, and the belly is flatted: the general

general colour is a duſky browniſh olive, and along the ſides there run four parallel longitudinal lines, of a fine bright and golden yellow: the fins and tail are alſo of an elegant yellow, ſtained irregularly with a very bright ſcarlet: the ſecond fin of the back has eight rays; the lower jaw is furniſhed with two oblong, white cirri or beards.

This ſpecies is very frequent in the Mediterranean, and it is alſo caught frequently about the coaſts of the Weſt of England. Salvian calls it Mullus major; Aldrovand and Jonſton, Mullus major ex Hiſpania miſſus; Ray and Willughby, Mullus major noſter et Salviani. Salvian is, indeed, the firſt author who has deſcribed it.

Trigla capite glabro, tota rubens, cirris carens.
The red, ſmooth-headed Trigla, without any beards.

The King of the Mullets.

This is a very ſingular and a very beautiful fiſh: the head is large, and of a very odd figure, angulated and approaching to ſquare: the eyes are large; they ſtand near together on the top of the head, and their iris is of a gold yellow: the noſtrils ſtand a little below them, and have each a double aperture: the mouth is monſtrouſly large, and there are a great number of teeth in the jaws, in the palate, and in the fauces, but the tongue is ſmooth: the whole fiſh is of a beautiful red colour: the back is convex, and the ſides diſtended ſo as to give it a bellied look: the ſcales are very large, and adhere but looſely.

The firſt back fin has ſix rays, of which the ſecond is the talleſt; the ſecond has ten rays, of which the firſt is prickly: the pectoral fins have each twelve rays, and the ventral ones have ſix each; the firſt of theſe is aculeated: and the pinna ani has ten rays, of which the two firſt are aculeated; the tail is ſomewhat forked, and has about twenty rays: there are but four appendages to the pylorus, and the air-bladder is ſimple.

This is frequent in the Mediterranean. Ray and Willughby call it Mullus imberbis ſive Rex Mullorum.

Trigla capite parum aculeato, pinnula ſingulari, ad pinnas pectorales.
The Trigla, with a ſomewhat prickly head, and with a ſingular pinnule at the pectoral fins.

The Hirundo Piſcis.

This is one of the Triglæ which have the pectoral fins ſo long, that they are of uſe in flying; and it has thence, by ſome inaccurate writers, been confounded with the Exocætus or Flying-fiſh, diſtinctively ſo called: the head is large, of a ſomewhat depreſſed figure, angulated and approaching to ſquare; it's ſurface is, in ſeveral parts, irregular, but behind it's covering is continued into two long ſpines, which lie extended on the back; the coverings of the gills alſo terminate each in a long and very ſharp ſpine: the eyes are large, and ſtand near one another on the top of the head; the noſtrils have each a double aperture, and ſtand a little below them: the mouth is large, and is very well furniſhed with teeth, both in the jaws, in the palate, and in the fauces, but the tongue is ſmooth: the body is large toward the head, but it grows extreamly ſmall at the tail: the back is convex, the belly flatted, and the ſides rounded and prominent: the ſcales are hard and rough to the touch, and are elevated in the middle into a kind of eminence: the firſt of the two back fins has five rays, the ſecond has eight, and the pinna ani has only ſix: the pectoral fins have twenty-ſeven or twenty-eight rays each; theſe are immoderately long, and are connected by a membrane ſufficiently firm and tough, and of a browniſh colour, ſpotted with black: the ventral fins ſtand in the middle of the belly, and they alſo are very long, and have five rays each: in the middle of the back there ſtands a ſhort ſpine: the tail is forked, and there are two large ſcales at it's origin: near each of the pectoral fins there is a ſingular pinnule of ſix rays; the pectoral fins ſerve it to fly with, but it never flies far or high.

This ſpecies is frequent in the Mediterranean, and in ſome other ſeas. Ariſtotle, Ælian, and Oppian call it Χελιδὼν; Athenæus, Ἱέραξ; and Oppian, in another place, Ἶρηξ; Pliny calls it Milvago; and many of the old Latin writers, Milvus; Rondelet and Geſner call it Hirundo Piſcis; Gillius, Accipiter; and ſome, Lucerna and Para-

bele. The Spaniards call it Volador; the Italians, Rondine; the Sicilians, Falcone; and the Swedes, Flygande Fiſke.

Trigla capite aculeato, appendicibus utrinque tribus ad pinnas pectorales.
The Trigla, with a prickly head, and with three appendages at each of the pectoral fins.

The Tub-fiſh.

This is a very ſingular ſpecies; the head is large, and of an irregularly ſquare figure, and is prickly: the orbits of the eyes are ſurrounded with a ſeries of ſhort ſpines, and there runs a ſeries of the ſame kind of ſpines alſo round the verge of the upper jaw: the ſides of the head alſo are ſharp, and, on the back part, the bony covering of it is protended backwards into the form of two horns, each terminating in a very ſharp ſpine: the eyes are large, and ſtand very near one another; the noſtrils have a double aperture, and ſtand at ſome diſtance below them: the mouth is large and well-furniſhed with teeth in the jaws, on the palate, and the fauces, and there are ſeveral little irregularities about the verge of it.

The body of the fiſh is large near the head, but it becomes very ſmall toward the tail; it's colour is a duſky purpliſh-red, variegated with a ſilvery white, and with a bright green: the ſcales are very ſmall and ſmooth, and they adhere very firmly; there is a peculiar ſquamma over each of the pectoral fins, which has a ſtrong prickle: the lateral line runs ſimple to the tail, and is not forked, as in ſome of the ſpecies: the firſt of the two back fins has nine rays, the ſecond has eighteen; the pectoral fins have each ten rays; the ventral ones have ſix each, and the firſt of theſe is prickly: the pinna ani is very long, and has nineteen rays; the tail is a little forked, and has only ten rays: there is a kind of ſulcus in the middle of the back, and in this ſtand twenty-five prickles: the air-bladder in this fiſh is divided, as it were, into three lobes.

This ſpecies is frequent in the Mediterranean, and in ſome other ſeas; we not unfrequently meet with it about the coaſts of Cornwall, and elſewhere on the Britiſh ſhores: the antients were acquainted with it: Athenæus calls it Κόραξ; Aldrovand has figured it under the name of Hirundo piſcis prior; Jonſton, Willughby, and Ray call it Hirundo; and Pliny, Iſidore, and Salvian, Corvus. The Italians call it Capone; and our common people of Cornwall, the Tub-fiſh.

Trigla roſtro parum bifido, linea laterali ad caudam bifurca.
The Trigla, with the roſtrum a little bifid, and the lateral line forked toward the tail.

This is a very beautiful ſpecies: the head is large, and of a ſquare figure; the top is depreſſed, and the roſtrum ſomewhat bifid at the extremity, but the diviſion not deep: the eyes are large, and ſtand near one another on the top of the head, and there are a number of ſhort but ſharp ſpines about them, and on ſeveral other parts of the head: the noſtrils are conſpicuous, and have each a double aperture; the mouth is large, and is well furniſhed with ſharp but ſhort teeth; beſide thoſe in the jaws, there are ſeveral on ſome oblong bones in the fauces, and the palate alſo has many on it, but the tongue is ſmooth.

The body is biggeſt, juſt at the head; it grows very ſuddenly leſs from thence, and is extreamly ſmall at the tail: the back is convex; the belly is ſomewhat flatted, and the ſides are prominent; the general colour is a mixture of olive brown and yellowiſh, but on the ſides there is a beautiful tinge of red: the ſcales are ſmall and ſmooth, and there runs a furrow along the middle of the back, in which there are placed twenty-five ſpines; at the pectoral fins, on each ſide, there are three articulated appendages: the lateral line is not ſimple all the way, as in the former, but toward the tail it is forked: the firſt of the two back fins has ten prickly rays; the ſecond has ſeventeen rays: the pectoral fins have each ten rays; the ventral ones have ſix each, and the pinna ani has fifteen.

This ſpecies is frequent in the Mediterranean: Pliny calls it Milvus and Milvago; Rondelet and Aldrovand call it alſo Milvus; Geſner, Lucerna ſive Milvus; Willughby and

and Ray, Lucerna Venetorum; and Salvian, Cuculus. The people of Naples call it Cocco; the Genoeſe, Organo; and the Maſſilians, Galline.

Trigla tota rubens roſtro parum bicorni, operculis branchiarum ſtriatis.
The red Trigla, with the roſtrum ſomewhat bifid, and the coverings of the gills ſtriated.

The red Gurnard.

This is a very ſingular fiſh, and is not without it's beauty: it is all over of a fine ſtrong red, between a crimſon and ſcarlet: the head is large, depreſſed, and of a figure approaching to ſquare: the mouth is large, and well furniſhed with teeth in the jaws, and on the palate, and in the fauces; the roſtrum is bifid at the extremity, but the ſlit is not deep: the eyes are moderately large, and ſtand at a ſmall diſtance from one another on the top of the head: the noſtrils have each a double aperture; the anterior is round, and the other a tranſverſe ſlit; they ſtand nearly in the middle between the eyes and the roſtrum: the coverings of the gills are deeply ſtriated, and each of them is armed with three ſpines; two of theſe ſtand near one another on the lower part, and the other, which is larger than either of them, on the upper: the extremity of the roſtrum, where it is forked, terminates alſo in two ſharp ſpines: the body is largeſt toward the head, and thence grows immediately ſmaller, and toward the tail is very ſlender: the back is convex, and of a deeper red than the ſides; the belly is of a pale fleſh colour.

This ſpecies is frequent in the Northern Seas; it makes a ſingular noiſe, when out of the water: ſome have ſuppoſed it like the grunting of a hog, others have compared it to the ſinging of a cuckow; it is not eaſy to ſuppoſe that both accounts are right. The antients were very well acquainted with this fiſh. Ariſtotle calls it Κόκκυξ; Ælian, Oppian, and Athenæus alſo retain the ſame name for it; Rondelet, Geſner, and ſeveral others call it Cuculus; Bellonius and Geſner, Cuculus minor; Schoneveldt, Cuculus Lyræ ſpecies; Charleton calls it, ſimply, Lyra; and Paulus Jovius, Capo. The French call it Marrude; the Dutch, Hunchem; and we, the red Gurnard; and, in ſome places, the Rotchet. We have it in great abundance about the Yorkſhire ſhore.

Trigla varia roſtro diacantho, aculeis geminis ad utrumque oculum.
The variegated Trigla, with a bifid and ſpinoſe roſtrum, and with two ſpines at each eye.

The grey Gurnard.

The head of this ſpecies is very large, and of an angulated figure, nearly ſquare: the mouth is very wide; the eyes are large, and are placed at a ſmall diſtance from one another, at the top of the head: the extremity of the roſtrum is formed into two ſpines, each of which is armed with five or ſix little ſpinules; the back part of the head is alſo extended into two horns, and the coverings of the gills have each two robuſt ſpines: the iris of the eyes is of a ſilvery white, and the pupil is bluiſh: the body of the fiſh is large toward the head, but extreamly ſmall, as it comes toward the tail: the back is convex, but it has a furrow in it, with ſeveral denticles ariſing from it, as in ſome of the other ſpecies: the ſides are prominent, and the belly alſo is ſomewhat prominent; the lateral line is rough and eminent, and there is a bony ſquamma near the pectoral fins, terminating backwards in a very robuſt ſpine: the pectoral fins are ſmall and obtuſe; there are two back fins which are moderately long; the pinna ani alſo is long, and the tail is broad, and ſupported by nineteen rays.

We have this ſpecies in abundance in our own ſeas: the fiſhermen on the coaſt of Cornwall take it in great quantities; it makes a ſingular noiſe, when taken out of the water: the antients ſeem not to have known it. Charleton calls it Piſcis Cuculus quem grey Gurnard vocant; Willughby and Ray, Gornatus ſive Gurnardus griſeus, names formed from the vulgar Engliſh one, grey Gurnard.

Trigla

Trigla roſtro diacantho, naribus tubuloſis.
The Trigla, with a bifid roſtrum, and tubuloſe noſtrils. **The Piper.**

The head of this ſpecies is very large, in proportion to the body: the mouth is remarkably wide; the eyes are large; they ſtand at a very ſmall diſtance from each other at the top of the head, and are covered with a ſkin: the bony covering of the head is angulated, and terminates in two horns at the hinder part; the roſtrum is formed into two ſpines, and at the upper part of the orbits of the eyes there is alſo a robuſt and crooked ſpine: the body is ſomewhat rounded, and of a conic figure; very large toward the head, and extreamly ſmall at the tail: over each of the pectoral fins there ſtands a very robuſt and ſharp thorn, and there are, on each ſide, three articulated appendages: the back is rounded or convex, but it has a furrow in it with twenty-ſix prickles on each ſide: the lateral line is ſcarce at all rough, and there are about ſeventy puncta on each ſide; the fiſh grows to more than a foot in length: the firſt of the two back fins has ten prickly rays, the ſecond has eighteen; the pectoral fins have twelve each; the ventral ones have each ſix, and the firſt of them is aculeated.

This ſpecies is frequent in the Mediterranean, nor leſs ſo in the Ocean; we have it in great abundance about our own ſhores: when caught, it makes a very ſingular and loud noiſe. Ariſtotle and the reſt of the Greek writers call it Λύρα; Paulus Jovius calls it Capo; Rondelet, Geſner, and Jonſton, Lyra; Ray and Willughby, Lyra prior. The Genoeſe call it, Organo; and we, the Piper.

Trigla cirris plurimis, corpore octagono.
The Trigla, with numerous beards, and with an octagonal body.

This is an extreamly ſingular ſpecies: the head is very large, and of an angulated figure: the mouth is wide; the eyes are large, and ſtand near one another on the top of the head; their iris is of a golden yellow, and the pupil black: the roſtrum or anterior extremity of the head is protended into two long and ſharp ſpines: the ſcales are hard, elevated, and of a rhomboidal figure; there are ſix ſeries of them, and theſe give the body an octagonal figure: there are two articulated appendages. The colour of the whole fiſh is a pale red: the orbits of the eyes are ſurrounded with a double ſeries of ſpines, and the noſtrils are not conſpicuous: the back fin is ſupported by twenty-ſix rays, which are not prickly: the pectoral fins have each twelve rays; the ventral ones have ſix each, and the pinna ani has nineteen: the fins all are of a paler colour than the body, as is alſo the tail.

This ſpecies is frequent in the Mediterranean, and is not leſs ſo in the Ocean about our own coaſts. Rondelet, Willughby, and Ray call it Lyra altera; Salvian, ſimply, Lyra; Geſner calls it, Lyra cornuta ſive Lyra altera; Bellonius, Coccyx altera ſive major. The Italians call it Peſce capone and Peſce forca; the Genoeſe call it Malarmat; and we, the Piper, confounding it by that name with the former ſpecies.

SCORPÆNA.

THE head of the Scorpæna is very large and very prickly; there is only one fin on the back, and that is low in the middle: the body grows very ſlender, as it comes toward the tail: the eyes ſtand very near one another, and are covered with a ſkin, and there are teeth in the fauces and on the palate, as well as in the jaws: the branchioſtege membrane contains ſeven bones.

Scorpæna pinnulis ad oculos et nares.
The Scorpæna, with pinnules at the eyes and noſtrils.

This ſpecies very much reſembles the common pearch in it's general figure: the head is large, and odly figured, and is ornamented with four pinnules; two of theſe are placed at the eyes, and the other two at the noſtrils: the eyes are large, and ſtand almoſt cloſe to one another on the top of the head: their iris is of a gold yellow, and the pupil black: the mouth is large, and furniſhed with a great number of teeth; the body is large toward the head, but it grows very ſmall, as it approaches the tail: the

back is arcuated; the ſides are prominent, and the belly is flatted; the colour is variegated, in an elegant manner, with blackiſh, olive, and yellowiſh; there is a remarkable depreſſion or hollow on the head between the eyes: the belly is of a fleſh colour, and the ventral fins are of a deep red: the back fin has twenty-one rays, twelve of which are prickly; the pectoral fins have ſixteen rays, and the ventral ones only ſix; the firſt of theſe is prickly: the pinna ani has eight rays, and three of them are prickly: the tail is large and rounded at the extremity; the ſcales are very ſmall, and cover one another, in a manner, ſtanding like thoſe of the ſerpent-kind: the urinary bladder in this fiſh is remarkably large.

It is frequent in the Mediterranean: the antients were very well acquainted with it. Ariſtotle calls it Scorpios, and the female Σκορπὶς; Athenæus and Oppian alſo call it Σκορπὶς, and after them Rondelet calls it Scorpius; Jonſton, Scorpius and Scorpis; Willughby and Ray, Scorpius minor et Scorpæna; Paulus Jovius, Scorpena; and Pliny, Salvian, and others, Scorpæna; Iſidore, Cuba, and Wootton call it Scorpio; Geſner, Scorpio vel Scorpæna, id eſt, Scorpius minor; and Charleton, Scorpides ſive Scorpæna. The Italians call it Scrofanello and Peſce Scorpione.

Scorpæna tota rubens cirris plurimis ad os.
The red Scorpæna, with numerous beards.

This is of three times the ſize of the former ſpecies: the head is large, and of an irregular figure, and is armed with a number of ſpines: the eyes are large, and ſtand at a ſmall diſtance from one another on the top of the head; the pupil is black, and the iris is variegated with a number of red ſpots: the body is large toward the head, and grows very ſmall, as it approaches the tail; the colour of the whole body and head is a ſtrong, but ſomewhat duſky, red; there is a tinge of blackiſh with it on the back, which gives the whole a duſky purple hue, and the belly, on the contrary, is pale and fleſh-coloured: the back is rounded, and the ſides are prominent; the belly is flat; the fins are large: the pectoral ones have each nineteen rays, and are obtuſe or rounded at the extremities: the anus in this ſpecies is ſituated at a conſiderable diſtance from the pinna ani.

This is caught, with the former, in the Mediterranean, but it is leſs frequent. Salvian calls this, ſimply, Scorpius; Geſner, Scorpius ſimpliciter vel major; Ray and Willughby, Scorpius major; Charleton, Scorpio. The Italians call it Scrofano; and the people of Marſeilles, Scorpena and Eſcorpæne.

COTTUS.

THE head of the Cottus is of a depreſſed figure and prickly, and is broader than any part of the body: there are two fins on the back; the anterior one has flexible prickles: the belly fins are very ſmall, and have only four rays each, and thoſe ſoft and flexile: the ſkin is ſmooth, or not covered with ſcales; and the branchioſtege membrane contains ſix diſtinct bones.

Cottus alepidotus, glaber, capite diacantho.
The ſmooth Cottus, with two ſpines on the head.

The Miller's Thumb.

This ſpecies grows to about three inches in length: the head is broad, flatted, and irregular in it's figure; it is more rounded on the upper than on the under ſide, and it's ſurface is uneven: the upper and under jaws are nearly of the ſame length, but the extremity of the roſtrum turns a little upwards: the noſtrils are not very conſpicuous, but there is a kind of valve or cirrus between the eyes, and the extremity of the roſtrum, in the place where the noſtrils of other fiſhes ſtand: the eyes ſtand very cloſe to one another on the top of the head; they are large, and their pupil is greeniſh, and the iris of a duſky yellow: the head is covered with a kind of bony laminæ, and one of them on each ſide terminates in a ſpine, which is crooked, and turned backwards: the branchioſtege membrane is very convex, and ſeems as if it were inflated with air: the mouth is very wide, and has a great number of teeth; there are more than a ſingle ſeries of them in each of the jaws: there is a bone in the anterior part of the palate, which is covered alſo with a great many teeth; and in the fauces there are two bones in the upper part, which are thick-ſet with teeth; theſe are of a

roundiſh figure and large, and in the lower part there are two others ſmaller, and of an oblong figure, which are alſo covered with teeth: the middle of the palate and the tongue is ſmooth.

The body, by degrees, grows ſmaller from the head to the tail; it is rounded, and approaches to a conic figure, only that toward the tail it is a little depreſſed: the ſkin is ſmooth and lubricous, being covered with an unctuous fluid, and having no ſcales; the lateral line is very conſpicuous, and runs nearly ſtraight, only that toward the anterior part it is a little bent downward: the back and ſides are of a duſky browniſh-yellow colour, variegated with a number of large black ſpots: the upper part of the head is blackiſh, and the belly is whitiſh; the fins are of a duſky yellow, with an admixture of black.

There are two fins on the back, and they are nearly contiguous to one another; the anterior one is ſmall, and has only ſeven ſhort rays; the edge of the membrane of this fin is reddiſh: the ſecond back fin is almoſt continuous to this, and is variegated with black ſpots; it has ſeventeen rays, and the middle ones are the longeſt of theſe: the pectoral fins are ſpotted with black; they are large and rounded at the ends, and they have fourteen rays, the extream ones of which are the ſhorteſt: the membrane of theſe fins does not reach up to the ſummit of the rays, whence they appear ſerrated at the edge: the belly fins are very ſmall, and of a whitiſh colour; they ſtand low, and have only four rays, the two middle ones of which are the longeſt: the pinna ani is ſpotted; it has thirteen, or ſometimes fourteen, rays, the middle ones the longeſt as in the other fins: the tail is variegated with black and brown ſpots, and has eight long rays, beſide a number of ſhort and inconſiderable ones; it is not quite plane, but ſomewhat rounded, at the extremity.

The branchiæ are four on each ſide: the liver is large and undivided; the ſtomach is very large and round, and has the appearance of a bag; there are four appendages to the pylorus; the inteſtine has but one inflexion, and then runs ſtraight to the anus: the veſiculæ ſeminales and ovaries in the female appear double, but they are united at the baſe, and are included in a black membrane: the kidnies and the urinary bladder are large, and ſtand at the lower part of the abdomen; the peritonæum is black; the vertebræ are thirty-one, and are compreſſed at the ſides: the ribs are ten on a ſide, and are but ſlightly affixed to the vertebræ.

This little fiſh is very common in our ſhallow brooks, though it's ſtructure and form of it's parts have not been obſerved: the antients were acquainted with it. Ariſtotle call it Βοιτ◎ and Κοιτ◎; Gaza, Bellonius, Rondelet, and Aldrovand, ſimply, Cottus; Geſner, Cottus ſive Gobio fluviatilis capitatus; Cuba, Capitatus; Salvian, Citus; Jonſton and Charleton, Gobio copitatus. The Italians call it Meſſore and Capo Groſſo; the French, Chalot; and we, the Bull-head, the Great-head, and the Miller's Thumb; the Swedes call it Sten-ſimpa.

Cottus ſcaber tuberibus quatuor corniformibus in medio capite.
The rough Cottus, with four horn-like protuberances in the middle of the head.

The head of this ſpecies is very large and depreſſed; it is very irregularly figured, and has a great many prickles about it, eſpecially at the ſides; on the very middle alſo there ſtand four very ſingular, large, and remarkable tubercles, having the appearance of ſo many horns; theſe form a ſquare figure, and the two anterior are the larger; theſe are ſometimes round; the anterior ones are always ſmaller and oblong, and the ſuperficies of them all is rough, porous, and unequal: beſide theſe there are more than twenty bony and prickly apophyſes ariſing from the jaw-bones, and the laminæ about them, and covered only by a thin membrane or cuticle: there are two of theſe conſiderably large at the upper part of the branchioſtege membrane, and three above theſe on each ſide near the horns, two at the noſtrils, and one a little above the origin of each of the pectoral fins; there are alſo two broader behind the horns, at the origin of the back, beſide ſeveral ſmall, obtuſe, and ſcarce obſervable ones.

The opening of the mouth is very wide, and the upper jaw is a little longer than the under: the noſtrils ſtand ſomewhat nearer to the eyes than to the extremity of the roſtrum; they are at a diſtance from each other, and each of them has two apertures, but they are not very conſpicuous: the eyes ſtand in the upper part of the head, near one

one another: the iris is ſmall, and of a reddiſh yellow; the pupil is ſometimes green, ſometimes bluiſh or yellowiſh, and is not perfectly round, but of a ſomewhat oval figure: the body is largeſt near the head, and thence gradually becomes ſmaller to the tail; it is rounded in the anterior part, but from the anus to the tail it is ſomewhat compreſſed: the lateral line runs ſtraight, and is nearer the back than the belly, and above this line near the back there is a ſeries of tubercles reaching from the head to the tail; they are ſmall, rough, of a roundiſh figure, and ſomewhat depreſſed, and form two lines; there are more than forty in the upper line, which is the longeſt; and in the under one, which is ſhort, there are no more than fourteen: theſe are, in their ſubſtance and ſtructure, very like the tubercles on the head, but they are ſmaller than theſe: under the lateral line there alſo are a number of tubercles, but they are ſmaller than theſe, and of an oblong or lunated figure; they are about forty in number, but that is not determinate, any more than in thoſe above the lateral line, which are ſometims more, ſometimes fewer: the ſkin between theſe tubercles is perfectly ſmooth, or without ſcales: the colour is greyiſh or hoary, ſometimes a very duſky blackiſh, but there always are a number of black, tranſverſe lines on the ſides; the belly is white; the fins are often variegated with ſpots of black: there are two fins on the back; the firſt of theſe is lower and ſmaller, and has uſually nine rays; ſometimes however it has eight, or only ſeven, ſometimes ten; theſe are ſomewhat ridged, but not prickly: the hinder back fin is longer and taller; it has fourteen, and ſometimes fifteen, rays; theſe are two inches long, and are undivided at the top; the firſt and the laſt are the ſmalleſt; the middle ones are the longeſt, and they are all ſcabrous or rough on the outſide: the pectoral fins are very large and broad, and have each ſixteen or ſeventeen rays; theſe are two inches long in the full-grown fiſh, and are undivided at the extremity: the ventral fins are placed directly under the pectoral ones, but a little nearer to the anus; they have four undivided rays: the firſt of theſe is the ſmalleſt, and adheres to the ſecond in ſuch a manner, that they form, as it were, only one; the pinna ani has fourteen rays: the tail is nearly even at the extremity, and has twelve long rays; the gills are four on each ſide, the three upper ones larger than the fourth; the ſtomach is large and ſtrong, and there are ſeven appendages to the pylorus: the vertebræ are forty.

It is a native of the Northern Seas; it is very frequent about the coaſts of Denmark, Norway, and Sweden. I have alſo ſeen it caught near Scarborough, but it is not common in our ſeas; it feeds on ſea-inſects and ſmall fiſh.

Cottus alepidotus capite polyacantho, maxilla ſuperiore paulo longiore.

The Cottus without ſcales, with many ſpines on the head, and with the upper jaw longeſt.

The Father-lasher.

The head of this ſpecies is very large, appearing much diſproportioned to the body; the ſurface of it is very unequal, and there are a number of ſpines on different parts of it: ſome of theſe are ſhorter, and reſemble only tubercles; others are longer, ſlenderer, and very ſharp-pointed; the whole head is of a depreſſed form, broad, in proportion to it's perpendicular meaſure: the body is large toward the head, but becomes gradually ſmaller, all the way to the tail; the anterior part of the body is depreſſed, but the hinder part, from the anus to the tail, is compreſſed: the belly is broad, and ſomewhat prominent: the back is of a deep brown; the ſides are of an olive brown, with ſome tranſverſe ſtreaks of black, and the belly is much paler: the lateral line runs ſtraight, and is nearer the belly than the back.

We have this ſpecies in conſiderable plenty on our own coaſts. Jonſton calls it Scorpius marinus; Schoneveldt, Scorpius marinus vel Scorpius noſtras; Ray, Willughby, and Aldrovand, Scorpænæ Bellonii ſimilis; and we, the Father-laſher, a ſtrange unmeaning name, given it by the children who play about the ſhores in Cornwall, but the only one our language has for it.

Cottus

Cottus pinna ſecunda dorſi alba.
The Cottus, with the ſecond back fin white.

The Sea-dragon.

This is a very ſingular, but not a very beautiful, ſpecies: the head is large, flatted, or depreſſed, irregular in ſhape, and armed with a great number of tubercles and ſpines, eſpecially toward the ſides; the eyes are large, and ſtand near one another on the top of the head, and are covered with the common ſkin of the head: their iris is of a duſky orange colour, and the pupil is greeniſh: the noſtrils are ſituated a little below the eyes, and have each a double aperture; there are ſeveral ſeries of teeth in both the jaws, and in the anterior part of the palate there is alſo ſemi-lunar bone, on which there ſtand a multitude of ſmall teeth; and in the fauces alſo there are two bones above, and two below, which are all covered with teeth: the body is broader, depreſſed toward the head; but toward the tail it is compreſſed, and it is throughout ſmooth and free from ſcales, but covered with a mucilaginous fluid: the firſt of the two back fins is the ſmaller, and is of a duſky olive colour, with an admixture of grey: the hinder one is larger, and is white; the lateral line runs tolerably ſtraight, and is much nearer to the belly than to the back: the ſides are of a yellowiſh olive, variegated with tranſverſe ſtreaks of black; the belly is paler, and the back ſtill darker than the ſides; the pinna ani is long and low, and the tail large and equal.

This is frequent in the Mediterranean; and is ſometimes, though not ſo often, met with in the Northern Seas. Rondelet, Aldrovand, Ray, &c. call it Dracunculus; Geſner, Dracunculus, Aranei ſpecies altera; and in another place he deſcribes it again under the name of Exocæti tertium genus.

Cottus cirris plurimis corpore octagono.
The Cottus, with numerous cirri and an octagonal body.

The Cataphractus, or Pogge.

This, as well as all the other ſpecies of this genus, is a very ſingularly ſhaped fiſh: the head is depreſſed, but it is convex and angulated on the upper ſide, and perfectly flat below: the body is very large toward the head, but it grows extreamly ſmall; as it approaches the tail, it is angulated all the way, and, when ſtrictly examined, proves to be of an octagonal form; though in the whole, from the little elevation of the angles, it at a diſtance looks ſomewhat cylindric: the back, from the head to the extremity of the ſecond back fin, is hollowed, or has a depreſſion in form of a furrow, but from this part to the tail it riſes into a kind of ridge, or is ſubacute: the belly is of the ſame figure, or a little more plane and even; the anus is in the middle of the belly, or much nearer to the ventral fins than to the pinna ani: the mouth is ſmall, and is not ſituated at the extremity of the head, but ſomewhat underneath the tip of the roſtrum, and is of a lunated or ſemicircular figure: the upper jaw is hence much longer than the under; there are two cirri on the upper jaw, and on the lower there are ſeveral, both at the mouth and under the branchioſtege membrane: the noſtrils have each two apertures, but the hinder are very ſmall; the anterior one is tubuloſe, and is ſituated at a great diſtance from the other, and very near the extremity of the roſtrum: the eyes are round, and placed on the ſides of the head, not on it's top, as in ſome others of this genus; they ſtand ſo high, however, that they are very near one another: the apertures of the gills are moderately large; there are a great number of teeth in both the jaws, and in the fauces alſo there are bones covered with ſmall and fine teeth, but the palate is ſmooth: the head is bony, hard, and irregular in figure; it has eight very conſiderable ſpines on it; four of theſe ſtand on the roſtrum, two on each ſide, of which the hinder ones are bent backwards: the ſpace between theſe ſpines is hollowed, and the apex is bifurcated: the other four ſpines are ſituated on the ſides of the head, two on each ſide; they are ſhort, robuſt, and bent a little backwards: the hinder part of the head is bifid, and is terminated by two tubercles, but they are not prickly.

The back and ſides of this fiſh are of a duſky greyiſh, variegated with four or five tranſverſe blotches on the upper part; the belly is of a yellowiſh white: the body is octagonal, only till the hinder end of the back fin; from thence to the tail it is ſexangular: the whole body is covered with a kind of bony laminæ in the place of ſcales; they

they are very hard, and have in their middle a prominence which turns backward; this is moſt eminently obſervable in the laminæ on the back, and it is to theſe that the body owes it's angular figure; theſe laminæ are, in the anterior part, diſpoſed in eight longitudinal ſeries: the lateral line runs nearly ſtraight along the middle of the body, but it bends a little toward the back, as it paſſes the pectoral fins.

There is only one back fin, but this is cut in ſo deeply toward the middle, that it has the appearance of two fins: the anterior part of it has five ſimple and ſomewhat prickly rays; the hinder diviſion has ſeven rays, but they are ſoft, and not all prickly: the pectoral fins are very large, and rounded at the extremities; they ſtand low, or nearer the belly than the breaſt of the fiſh, and are variegated with black ſpots; they have each fifteen rays; theſe are all undivided, and the middle ones are largeſt: the ventral fins are very ſmall; they are placed almoſt cloſe to one another, and ſtand but a little below the pectoral ones: theſe have each only three rays; the firſt of theſe is very ſhort, and is prickly at it's point, but it adheres firmly to the ſecond; the pinna ani ſtands juſt over-againſt the hinder diviſion of the back fin; it has only ſix rays, and they are all undivided at the extremities: the tail is rounded at the extremity, and has eleven or twelve rays, which are not at all prickly, nor ramoſe.

This ſpecies grows to about ſix inches in length, and is conſiderably thick, in proportion. Ray, Willughby, and almoſt all the writers on fiſhes have called it Cataphractus; and we, in Cornwall, call it the Pogge: it is very frequent in the Baltic, and is not uncommon about our own ſhores in many places.

The other ſpecies of the Cottus are, 1. The very ſmall, flatt-headed Cottus. 2. The larger, thick-headed Cataphractus. 3. The larger, ſlender-bodied Cataphractus; and, 4. The ſmaller, gibboſe-backed, thick-bodied Cataphractus.

ZEUS.

THE body of the Zeus is very broad, thin, and compreſſed; the head alſo is compreſſed and thin: the ſcales are rough; there is only one fin on the back, but it is very long, and is cut in ſo deeply near the anterior part, that it appears to be two fins: the branchioſtege membrane does not conſiſt of parallel bones, as in other fiſh, but has a number of oſſicles of various figures; ſome of them placed longitudinally, ſome tranſverſely, and ſome obliquely.

Zeus ventre aculeato, cauda in extremo circinnata.
The Zeus, with an aculeated belly, and the tail rounded at the end.

The Doree.

This is a very ſingularly ſhaped fiſh, but it is very far from a beautiful one; it is extreamly broad, in proportion to it's length: it's head is large, compreſſed, and of a monſtrous form, and the mouth is enormouſly wide, and ſtrangely cut: the eyes are large, and the noſtrils have each a double aperture: the body is very thin, though ſo very broad; it's colour is a duſky olive, with a ſtrong admixture of a fine gold yellow, and in the middle of each ſide there is a very large, round, black ſpot: the lateral line is very crooked, and is turned up toward the back, in the greater part of it's courſe.

The anterior diviſion of the back fin has ten prickles, under which there are as many rays: the ſecond, or hinder, diviſion of the back fin, has twenty-four rays; the pectoral fins have each fourteen rays; the ventral fins have each ſeven rays, and the firſt of them is prickly: the pinna ani has twenty-ſix rays, the four firſt of which are prickly and long; there are alſo ſeries of prickles at the baſe of the back fin, and of the pinna ani, and all along the belly: the tail is rounded.

This ſpecies is frequent in the Mediterranean, and is ſometimes caught in our own ſeas: the antients were acquainted with it. The Greeks call it Κοττος and Χάλκεος; Pliny calls it Zeus and Faber; Paulus Jovius calls it Citula ſive ſancti Petri piſcis; and, in another part of his work, Corvus; Rondelet, Geſner, Willughby, and Ray call it Faber ſive Gallus marinus; and moſt of the other writers, ſimply, Faber. The Spaniards calls it Gal; the Italian, Citula and Peſce ſan Pietro; the Genoeſe, Rotula; the French, Doree; and we, the Doree, or John Doree, a corruption of the Jaune Doree of

the French, a name they give it to expreſs the gilded yellow colour it has intermixed with the brown, and ſometimes ſingly.

Zeus cauda bifurca.
The Zeus, with a forked tail.

The Indian Doree.

This alſo is a very ſingular fiſh; the body is extreamly flat and thin, and more reſembles a flounder than any other fiſh in ſhape: the head is moderately large and compreſſed; the eyes are large, and their iris is of a ſilvery white; the pupil is of a duſky greeniſh: the mouth opens very wide, and is cut in an odd manner: the noſtrils have each a double aperture, and are ſituated at ſome little diſtance below the eyes; the whole inſide of the mouth is perfectly ſmooth; there is not the leaſt aſperity or reſemblance of a tooth in either of the jaws, or on the palate: the back is of a duſky colour, mixed, of an olive and a blackiſh grey; the ſides have more of the olive, with a tinge of yellow, and the belly is more yellow than any other part: there is but one back fin, but it is very long, and extends to the tail: the pinna ani alſo is long, and reaches in the ſame manner alſo to the tail; the tail itſelf is large and forked: from the place of origin of the pectoral fins, there runs on each ſide a kind of long filament, and there is ſuch another ariſing juſt before the back fin.

This is a native of the American Seas, but it has alſo been ſometimes met with in Europe. Willughby calls it Gallus marinus ſeu Faber Indicus. The natives of the Braſils, where it is extreamly common, call it Abercatuxia; and the Portugueſe there, Peixe Gallo. Jonſton calls it Abercatuaja Luſitanis Peixe; and Ruyſch, Ican Kapelle. We frequently have it in the collections of the curious, ſent over preſerved from the Braſils.

Zeus totus rubens, cauda æquali, roſtro ſurſum reflexo.
The red Zeus, with an even tail, and the roſtrum turned upward.

The Aper, or Riondo.

This is a ſmall ſpecies; it rarely grows to more than three inches in length, but it is very broad, in proportion to that length, and is thin and ſharp at the back and belly: the head is large and compreſſed; the eyes are large, and ſtand at a moderate diſtance; their iris is of a ſilvery white, and the pupil of a bluiſh-grey: the mouth is large, but there are no teeth in it: the noſtrils have each a double aperture, and the roſtrum is turned up at it's exremity: the ſcales are rough and ſmall, and the lateral line is turned up toward the back.

The anterior diviſion of the back fin, or, as the generality of authors have called it, the anterior back fin, has nine prickly rays, of which the third is the talleſt: the hinder diviſion has twenty-three rays; the pectoral fins have each fourteen rays, and the ventral ones have ſix each; the firſt of theſe is prickly: the pinna ani has twenty-ſix rays, of which the three former are ſhort and prickly: the inteſtines of this fiſh have frequent convolutions, and there are two or three appendages to the pylorus.

The colour of the whole fiſh is a deep and ſtrong red; it is duſky or purpliſh on the back, and degenerates into a pale fleſh colour about the belly; but on the ſides it is an elegant crimſon, eſpecially about their middle.

The fiſh is frequent in the Mediterranean; the antients were acquainted with it. Ariſtotle and Athenæus call it Καπρος; and all the Latin writers, in general, Aper. The Italians call it Riondo; and the Genoeſe, Strivale.

CHÆTODON.

THE body of the Chætodon is compreſſed, and is broad, thin, and ſhort: there is only one fin on the back, which is extended the whole length of it: the tail is large, and there are in all ſix fins, excluſively of the tail: the mouth is ſmall, and has a pair of lips which are moveable at pleaſure, but which, when ſhut, cover the teeth: the teeth are oblong, contiguous, and flexile; the ſcales are rough, and the eyes are covered with the common ſkin of the head: the branchioſtege membrane on each ſide contains four or five very ſlender bones.

Chætodon

FISHES Series 4.



The Blennus or Buller fly Fish



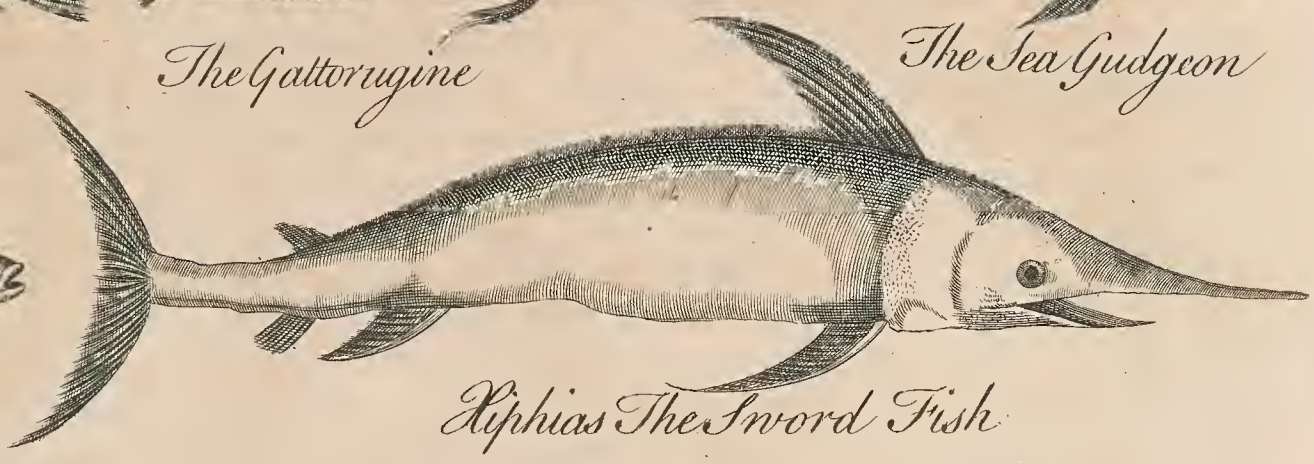
The Galtorugine



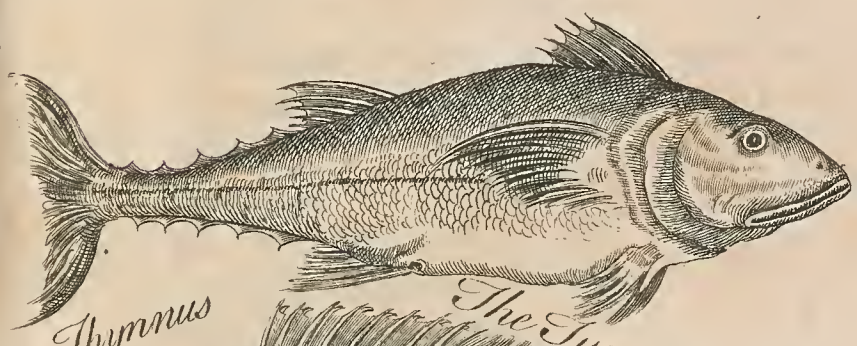
The Sea Gudgeon



The Paganello



Xiphias The Sword Fish



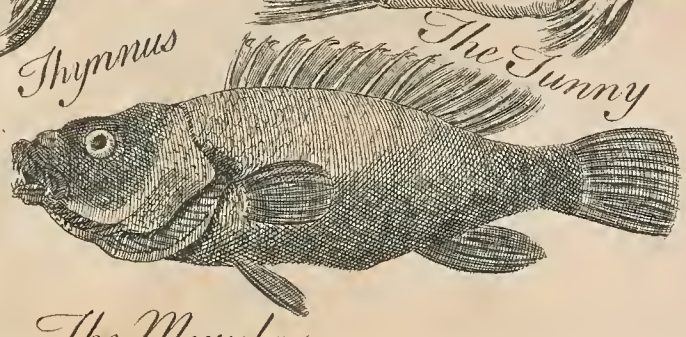
Thynnus The Tunny



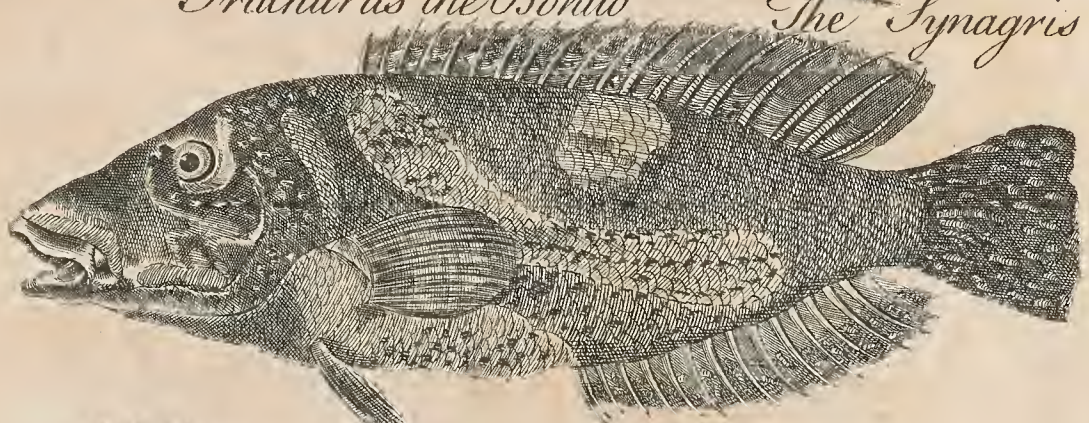
Trachurus the Bonito



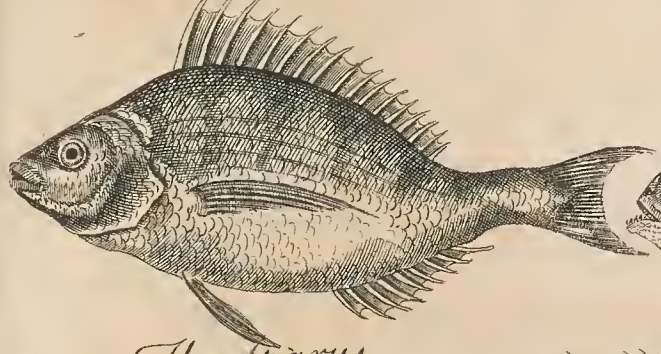
The Synagris



The Merula



The Peacock fish



The Sparus



The Melanurus



The Sea Perch



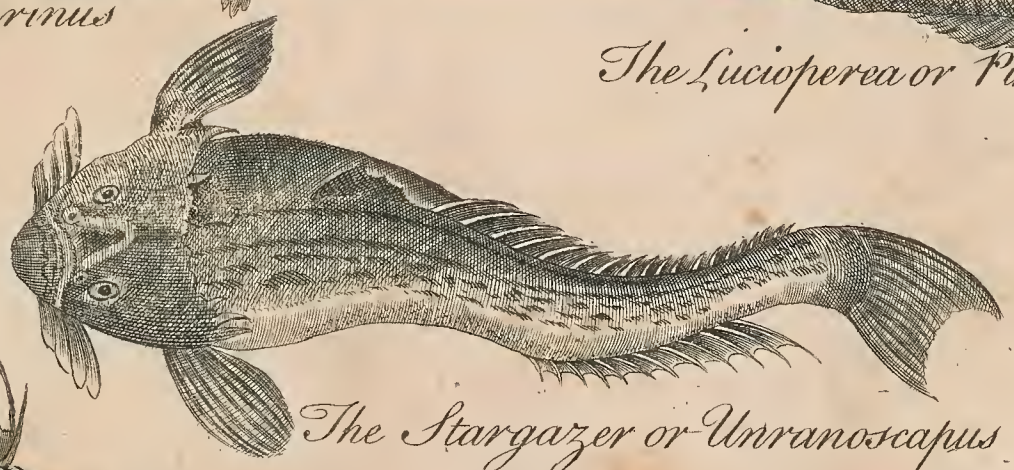
Draco Marinus



The Luciopercа or Pike Perch



The Lyra or Piper



The Stargazer or Unranoscapus



The Bull head or Millars Thumb



The Faber or John Doree



The Sea Scorpion of Salvian



The Acarauna

B. Cole Sculp

Chætodon lineis longitudinalibus varius, cauda bifurca.
The Chætodon, variegated with longitudinal lines, and with a forked tail.

The head and body of this ſpecies are both greatly compreſſed; the body is very broad and thin; the back is acute, but the belly, in the anterior part, is ſomewhat plane; and the anus is ſituated in the middle, between the ventral fins and the pinna ani: the mouth is very ſmall, and, when it is ſhut, the upper jaw is a little longer than the under; there are no beards: the head, from the eyes to the roſtrum, is very declivous; and the lips may be drawn backward and forward, from the extremity of the jaws, with a finger: the noſtrils are ſituated very near the eyes, and have each a double aperture, of which the anterior is the larger: the eyes ſtand at the ſides, not on the top of the head, but they ſtand high, and are very near one another; they are large, round, and are covered with the common ſkin of the head; the iris is of a bluiſh-white: the openings of the gills are ſmall and narrow; there is in each jaw a ſingle row of white, ſlender, ſubulated teeth; they ſtand contiguous to one another, and are ſerrated at the point: the palate and the tongue are ſmooth.

The ſcales are obtuſely quadrangular in figure, and have, at their lower verge, a number of ſmall uncinulæ ſcarce perceptible; at the upper part they are very lightly ſtriated: the whole body of the fiſh is elegantly variegated with longitudinal lines; there are on each ſide nine of theſe lines of a bluiſh colour, with a brown edge on each ſide of them, ſo that there are, as it were, eighteen of theſe brown lines accompanying the nine blue ones, and between theſe there are ſix broad white ones, ſometimes ſeven: on the top of the head there are alſo ſome of theſe longitudinal bluiſh lines: the lateral line is diſtinct from all theſe; it is very crooked, and runs near the back.

The back fin is of a duſky grey colour, and runs along the whole length of the back; it has thirty-ſix rays; nine of theſe are prickly, the reſt are ſoft, and divided at the extremities: the pectoral fins ſtand nearer the belly than the back, and have each ſixteen rays: the ventral fins are oblong and black at the extremity; they ſtand lower down, or nearer to the anus, than the pectoral ones; they are fixed down to the belly by a membrane, by which they are prevented from being raiſed into a perpendicular; they have each ſix rays, of which the firſt is prickly: the pinna ani is whitiſh at the baſe, but it is black all the way; from this it has twenty-nine rays, of which the firſt three are prickly: the tail is large and forked, and has ſixteen long bones or rays, and on the extremity of it there is a large, white, lunated ſpot.

There is on each ſide, near the tail, a long and robuſt ſpine; this is affixed to the body of the fiſh, and there is a furrow in the ſide, into which it is received.

This is a native of the American Ocean; but we meet with ſpecimens of it dried frequently in the cabinets of our collectors.

Chætodon nigreſcens cauda albeſcente æquali, utrinque aculeata.
The blackiſh Chætodon, with a white, undivided tail, aculeated on each ſide.

The body of this ſpecies is broad, in proportion to it's length: the back is elevated and acute; the belly is flatted, and the anus ſtands at a middle diſtance between the pinna ani and the belly fins: the head is of a depreſſed form; the mouth is very ſmall, and the upper jaw is a little longer than the lower: the lips are moveable, and compleatly cover the teeth: the eyes are large and round; they ſtand high, and at no great diſtance from one another; they are round, and their iris is ſmall, and of a ſilvery white; the pupil is very large, round, and bluiſh: the noſtrils have each a double aperture; the anterior one larger and round, the hinder a narrow ſlit; they ſtand a little below the eyes: the teeth are numerous, ſlender, and contiguous; they are ſerrated at the top, and there is a ſingle row of them in each jaw; the palate and the tongue are ſmooth; the whole head is of a depreſſed form, and very declivous from the eyes to the roſtrum.

The ſcales are ſmaller on this fiſh than on the other ſpecies, and the colour of the whole fiſh is one uniform, blackiſh brown, without any variegations of whatever kind: the pectoral fins are grey or hoary; the back fin and the pinna ani are black,

only that they have ſome whiteneſs about the baſe; the ventral fins are alſo black: the pectoral fins have each ſixteen rays, and the belly fins have ſix rays each; the back fin is very long, and has thirty-eight rays, of which the nine anterior ones are prickly, the others are ſoft, and divided at their ends: the pinna ani has twenty-nine rays, and the three firſt of theſe are prickly; the tail is large, broad, and even, not divided at the end; it is white, and has ſixteen long bones or rays; when extended, it is of a ſomewhat triangular figure: there is on each ſide a ſtrong prickle near the tail, which has a furrow formed in the ſide of the fiſh to receive it: the whole fiſh is of a depreſſed form, and is conſiderably broad, in proportion to it's length.

It is a native of the South-Seas; none of the writers of fiſhes have deſcribed it, with any degree of accuracy.

Chætodon niger capite diacantho, lineis utrinque quatuor tranſverſis curvis.

The black Chætodon, with two ſpines on the head, and four tranſverſe, crooked lines on each ſide.

The Guarenca.

The head of this ſpecies is moderately large, and is of a depreſſed form, and very declivous from the eyes to the extremity of the roſtrum: the eyes are moderately large, and are ſituated very forward on the head, much nearer the roſtrum than in either of the preceding ſpecies: the roſtrum is ſhort and obtuſe, and the lower jaw is a little longer than the upper; in each jaw there ſtand ſeveral ſeries of oblong, ſlender, and moveable teeth; they ſtand cloſe together: the palate is ſmooth, but in the fauces, both on the upper and under parts, there are a great number of villi or hairs, which are flexible, and are ſcarce at all rough: the coverings of the gills are lightly ſerrated at their edges toward the middle, but at the lower part they terminate in a large and robuſt ſpine, which turns backwards; the apertures of the gills are larger in this than in any other ſpecies: the whole body of the fiſh and all the fins are of a dark blackiſh-brown colour, but there run down the ſides four yellow, or ſometimes whitiſh, lines, in a tranſverſe direction, but lunated or crooked: the firſt of theſe is leſs crooked than the others, and runs through the middle of the coverings of the gills; the ſecond and third ſurround the middle of the body, and are lunated; the convex part or back is turned toward the head, the points or horns toward the tail: the fourth or laſt line ſurrounds the beginning of the tail; this is extended from the ſides, and ſurrounds, as it were, the tail: beſide theſe lines on the body, there is alſo on the head a tranſverſe line on each ſide near the mouth, and another longitudinal and ſtraight one on the top of the head.

The ſcales on this ſpecies are ſmall and rough; the lateral line is crooked, and runs more to the back than the belly; the back is elevated, and ſomewhat acute, and the belly is flatted; the anus is at a ſmall diſtance above the pinna ani.

The back fin is very tall, and in the middle forms a kind of horn; it has forty-one rays, and the nine or ten anterior ones are prickly: the pectoral fins are blackiſh, and have each nineteen or twenty rays; the ventral fins are extreamly black, and have ſix rays each, the firſt of which is prickly: the pinna ani is very large, and is raiſed into an eminence in the middle; it has twenty-ſeven rays, and the three firſt of them are robuſt and prickly: the membrane of the back and belly fins are very robuſt and firm, and are covered with ſmall, rough ſcales, up to the very tops of the rays: the tail is nearly even at the extremity, but a little convex; it has ſeventeen long rays.

This ſpecies grows to ſix inches in length, and a little more than three in breadth; it is a native of the Braſilian Seas. Marcgrave, and Ray after him, call it, by it's Braſilian name, Guarenca; Liſter has named it Acarauna exigua nigra zonis aliquot luteis eleganter depicta.

Chætodon aculeis duobus brevibus ſupra oculos, oſſiculo tertio pinnæ dorſalis altiſſimo.

The Chætodon, with two ſhort ſpines above the eyes, and with the third ray of the back fin talleſt.

The body of this ſpecies is depreſſed, broad, and ſhort; the back ſomewhat acute, and the belly flatted: the roſtrum is very long and ſlender, and the head is very declivous

bout from the eyes downwards: the mouth is ſmall, and the teeth are numerous; both jaws are very well furniſhed with them, but the palate and tongue are ſmooth: the lower jaw is a little longer than the upper, but the teeth in the upper one are longer than thoſe below; the lips are fleſhy and moveable: above the eyes there is, on each ſide of the head, a ſerrated bone, and above this there ſtands a ſmall, but thick, bony ſpine, which turns a little backwards: the ſcales are very ſmall, hard, and rough to the touch, and they are placed very cloſe together: the lateral line is crooked, and runs conſiderably nearer the back than the belly; the whole body of the fiſh is variegated with black and white: the anterior part of the head is white, with a black line on the top, and another below, at the lower jaw: there is a very broad black line, which runs between the belly fins and the back, and divides the body tranſverſely into two parts; and at the anterior part of this there is on each ſide a narrow, crooked, tranſverſe line; there is, behind this black line, a broad, tranſverſe, white one, which again divides the body; and below this there is alſo another broad, tranſverſe, black line: about the beginning of the tail there is another white line; and, finally, the tail itſelf is variegated in the ſame manner: there is, near the baſe, a broad, ſtraight, black line, and farther toward the extremity, a broad lunated one; and, finally, the extremity of the tail itſelf is white.

The back fin is very tall in the anterior part, but in the hinder part it is low; it has forty-ſix rays, of which the ſeven anterior ones are prickly, but two of them much more ſo than the other five: the two firſt are very ſhort, but the third is extreamly long, and is extended in form of a briſtle beyond the tail: the pectoral fins ſtand in the middle of the ſides, or a little nearer the belly than the back; they have each eighteen rays; the belly fins have ſix rays each: the pinna ani is broad at it's origin, but very narrow toward the extremity; it has thirty-ſix rays, of which the three anterior ones are prickly; the tail is large, and a little forked, and has ſixteen long rays: the body of this ſpecies is ſo broad, that in the middle it meaſures very nearly as much acroſs as in length: the fauces are ſmooth, but the orifice of the ſtomach is furniſhed at it's upper part with a ſharp bone.

This alſo is a native of the American Ocean, and has not been accurately deſcribed by any author.

Chætodon caneſcens aculeo utrinque ad os, oſſiculo tertio pinnæ dorſalis ſetiformi longiſſimo.

The hoary Chætodon, with a prickle on each ſide at the mouth, and with the third ray of the back fin long.

The head of this ſpecies is large, and the roſtrum long and obtuſe at the end: the eyes are large and round, and ſtand but at a ſmall diſtance from one another; their iris is of a ſilvery grey, and the pupil large and greeniſh; the noſtrils ſtand at a ſmall diſtance before the eyes, much nearer to them than to the extremity of the roſtrum; they have each a double aperture, the anterior one round, and the hinder one a tranſverſe fiſſure: the mouth is ſmall, and the lower jaw a little longer than the upper; both are furniſhed with a great number of ſlender, ſubulated teeth, and have fleſhy lips which cover them; theſe are moveable on touching, and are very tough in their ſtructure.

The body is very broad and depreſſed; the ſcales are all ſmall, hard, and rough, and the lateral line is crooked, and runs much nearer the back than the belly: at the angles of the mouth, on the upper jaw, there ſtands a robuſt ſpine, ſerrated at the baſe, and bent backwards, and behind the eyes there run three very viſible longitudinal bones, but there is no ſpine there as in the former: the colour of the whole fiſh is a greyiſh; in the middle it is a fine ſilvery grey, with ſcarce any duſkineſs in it, but there runs a black tranſverſe line down from the middle of the back fin, and another behind the eyes: the back fin has forty-ſix rays; the two firſt of them are a little aculeated, and the third is very long, and of the figure of a briſtle: the pinna ani has thirty-ſix rays; the pectoral fins have ſeventeen rays each, and the belly fins have each ſix rays: the tail is ſomewhat forked at the extremity, and has ſixteen long rays, and, beſide theſe, ſome ſhort ones.

This is a native of the American Ocean, and is caught among the other already deſcribed ſpecies; but, though we meet with it frequently in the cabinets of our collectors, none of the writers on fiſhes have accurately deſcribed it.

Chætodon macrolepidotus, lineis utrinque duobus nigris, oſſiculo quarto pinnæ dorſalis longiſſimo ſetiformi.
The Chætodon, with oblong ſcales, and with two black lines on each ſide, and the fourth ray of the back fin long.

The head of this ſpecies is longer than that of the laſt, and the roſtrum obtuſe: the lower jaw is ſomewhat longer than the upper, and the whole head is narrower than in any of the other ſpecies: the eyes are large, and ſtand but at a ſmall diſtance from one another; their iris is white, and the pupil of a greeniſh black; the orbits are ſomewhat acute in the upper part: the apertures of the gills are larger than in almoſt any other ſpecies, and the middle lamina of their coverings is ſomewhat ſerrated on the lower part: there are in each jaw ſeveral ſeries of teeth, placed very cloſe to one another, and flexible; and there are two prominences in the anterior part of the palate; the reſt of the palate is ſmooth, and the tongue alſo is ſmooth.

The ſcales are very large and thin; they are of an oblong figure, ſomewhat ſtriated, rectilinear at the baſe, but rounded, and ſomewhat rough at the hinder edge: the head is of a ſilvery white, but there is a black line between the eyes, and a black ſpot at the roſtrum: the body is variegated with black and white, diſpoſed in tranſverſe lines.

The back fin has thirty-ſeven rays, eleven of which are robuſt and prickly; the others are ſoft, and are ramoſe at the extremities; the fourth ray is ſo very long, that it reſembles a briſtle, and is extended beyond the tail; the reſt are very ſhort: the pectoral fins are white; they have each eighteen rays, and they are ſituated much nearer the back than the belly: the belly fins are black, and have each of them ſix rays, of which the firſt is prickly, broad, and robuſt; the reſt are weak and ramoſe: the pinna ani is broad, and riſes higheſt toward the middle; it has twenty-three rays, the three anterior of which are robuſt and prickly, the others are ſoft and ramoſe, and the middle ones are talleſt: the tail is white; it is nearly even at the extremity, and has ſeventeen rays: the anus is much nearer to the pinna ani than to the ventral fins.

This fiſh is very broad, in proportion to it's length, though leſs ſo than the preceding ſpecies. It is uſually about four inches long, and three inches and a quarter in breadth. It is caught on the Braſilian ſhores.

Chætodon macrolepidotus, lineis utrinque tribus nigris, latis, linea quarta in cauda.
The long-ſcaled Chætodon, with three black lines on each ſide, and a fourth on the tail.

This is alſo very broad, in proportion to it's length, and is of a more depreſſed figure than almoſt any of the other ſpecies: the head is oblong, ſlender, and obtuſe at the extremity, and is very declivous from the eyes to the roſtrum: the eyes are large, and placed near one another, and their iris is of a ſilvery grey, the pupil black: the noſtrils have each a double aperture; the anterior one is a round foramen; the poſterior a tranſverſe ſlit; they ſtand nearer to the eyes than to the extremity of the roſtrum: the openings of the gills are large, and the middle lamina is ſerrated on the lower edges: the jaws are both of the ſame length, but, when the mouth is open, the under one appears ſomewhat the longer: there are in each jaw ſeveral rows of teeth, and in the anterior part of the palate there is a very large protuberance.

The whole fiſh is variegated in a very elegant manner with black and white: the whole anterior part of the head is white, and there is a black line on each ſide near the eyes; behind this there runs another very broad white line: there goes a broad black line again, from the anus to the beginning of the back fin, and in the middle of the body there is a very broad white line; and in the middle, between the back and belly fins, there is alſo a black line: the hinder part of the body, and one half of the tail, are of a bright and elegant white; and the exterior edge of the back fin, and

the pinna ani, are black: in the middle of the tail there is a black tranſverſe line, but the extremity of the tail again is white: the back fin is not ſo high as in ſome of the other ſpecies; it has thirty-three rays, and twelve of them are prickly and very robuſt, the reſt are ſoft and ramoſe; the middle ones are of the ſame general length, and there is not any thing of that hair-like appendage as in the others: the pectoral fins are yellow, and have each ſixteen rays; the belly fins are very black half way, and have each of them ſix rays: the pinna ani has twenty-one rays, covered with ſcales; the three firſt are prickly, and very robuſt: the tail is convex, or rounded at the extremity, and has ſeventeen long rays.

This alſo is caught about the Braſilian ſhores, and is ſometimes met with dried among our collectors.

GASTEROSTEUS.

THE belly of the Gaſteroſteus is almoſt entirely covered with oblong bony laminæ: the ventral fins conſiſt only of two rays each, of which the one is much larger than the other, and prickly: the branchioſtege membrane contains three ſlender bones.

Gaſteroſteus aculeis in dorſo tribus.
The Goſteroſteus, with three prickles on the back.

The common Stickle-back.

Common and diſregarded as this little fiſh is, it has that in it's ſtructure which ſufficiently merits obſervation. The body is throughout, in ſome degree, compreſſed, but more particularly ſo in the hinder part: the head is large, long, compreſſed, and very declivous from the eyes to the roſtrum: the roſtrum itſelf is ſubacute, and the opening of the mouth is conſiderably large; the head is of a very firm ſtructure, bony, ſtriated, and of a greyiſh colour on the upper part: the under jaw is ſomewhat prominent beyond the upper; the eyes are large, and ſituated at the ſides, not on the top of the head, and their iris is of a ſilvery colour: the apertures of the noſtrils are extreamly ſmall; they are ſituated at a middle diſtance between the eyes and the roſtrum, and each has only a ſingle aperture inſtead of the double one in moſt fiſhes: the coverings of the gills are large; they are compoſed each of two large bony laminæ and the branchioſtege membrane: there are a great number of teeth in the verge of each jaw, but the palate and tongue are ſmooth.

The lateral line is ſomewhat crooked, and runs near the back, and parallel to it; toward the tail it riſes above the ſurface of the body, and forms a kind of fin-like prominence, whence that part of the body has a quadrangular figure in ſome degree: the head and back of this fiſh are of a duſky colour, or an admixture of grey and brown; the reſt of the body is of a ſilvery white: the breaſt is covered by two oblong bones, which coaleſce at the top, and form, as it were one; over this armature of the breaſt there is a large muſcle covered with a ſmooth ſkin; this ſtands before the pectoral fins, and in it's anterior part is the bone of the clavicle, which is large and ſimple: the belly is covered with a double ſcutiform bone, of an oblong figure, very firm and hard, and reaching to the anus; and at the anterior part of that bone there is ſituated another bone, at right angles, on either ſide: this ſerves to ſtrengthen the ſides, and is on each ſide continuous with the bone of the belly already mentioned: beſide theſe, the whole lower part of the body, almoſt to the tail, is covered with tranſverſe bones, twenty-ſix or twenty-ſeven in number; the middle ones of theſe are the largeſt, but thoſe next the head and tail are remarkably ſmall.

There is only one back fin, but this is large, and is extended almoſt the whole length of the back; it has fifteen rays, of which the three anterior ones are prickly, and ſtand at a great diſtance from one another; the others are ſoft, and ſomewhat forked at their extremities: of the prickly ones, the two anterior are large, long, equal, and ſerrated at their ſides; the third is ſcarce equal to one third of the length of theſe, but all three are in part connected by the membrane; not diſtinct and ſeparate, as authors, who have deſcribed this fiſh, have generally ſaid.

The pectoral, or, as they may be called from their ſituation, the lateral, fins, are oblong, whitiſh, and even at the extremities; they have each ten rays, which are all of the ſame length, and all ſoft and undivided at the ends: the belly fins conſiſt only

of

of two rays each; the anterior of theſe is large, aculeated, and ſerrated at the edges; and the other, which has eſcaped the obſervation of thoſe who have examined this fiſh, is ſmall, ſhort, white, and ſoft, and is, indeed, not very conſpicuous: the pinna ani is whitiſh, and has nine rays; the firſt of theſe is very ſhort, and is aculeated; the others are ſoft, long, and a little bifid at their extremities: the tail is oblong, and even at the end; it has twelve long rays, all which, except the two extream ones, are bifid at the ends.

This little fiſh is very frequent in our ſhallow brooks and rivulets, and often in fiſh-ponds; it's ſmallneſs makes it overlooked, but it is often the cauſe of great miſchief: it is the moſt voracious fiſh in the world, and devours the young of valuable fiſh, when firſt hatched from the ſpawn, in incredible quantities; it alſo feeds on the ſpawn itſelf, and many a good breeding pond is ſpoiled by it. All the writers on fiſhes have deſcribed it. The older Latin writers have called it Pugnitivus and Spinacha; the later ones, in general, Piſculus aculeatus; Aldrovand calls it Pugnitius piſcis; Rondelet, Piſciculi aculeati primum genus; Geſner, Piſciculus aculeatus, primum genus; Ray and Willughby, ſimply, Piſciculus aculeatus. The Swedes call it Skitſpig and Skitbar; and we, the Stickle-back and Banſticle.

Gaſteroſteus aculeis in dorſo decem.
The Gaſteroſteus, with ten prickles on the back.

The leſſer Stickle-back.

People, in general, have confounded this with the former ſpecies, and call both by the common name of the Stickle-back, ſuppoſing all of one kind; but this is not only conſtantly ſmaller than the other, but has it's diſtinctive characters as evident as any ſpecies in the world.

The head is large, in proportion to the body, and is of a ſomewhat compreſſed figure: the lower jaw is a little longer than the upper; the jaws are both furniſhed with a number of very minute teeth, but the palate and the tongue are ſmooth: the eyes are large, and their iris is of a greyiſh colour: the noſtrils have each only a ſingle aperture; the openings of the gills are large, and their coverings are compoſed each of two large bones and the branchioſtege membrane: the body is of a compreſſed form, and the lateral line runs in a direction parallel to the back, and is much nearer that than the belly; toward the tail this line riſes into a kind of fin-like prominence on each ſide, as in the former ſpecies, and gives the body a quadrangular figure.

The breaſt is covered with two bones, as in the former; and theſe are covered alſo with a muſcle, as in that ſpecies, and the ſtructure of the armature of the belly is the ſame as in that: the head of this is, however, longer than that of the other, and has nothing of that declivity from the eyes to the roſtrum: the back of this ſpecies is of a duſky grey, approaching to black, and is ſpotted with large blotches of a deep black; the ſides are of a ſilvery white, and are alſo variegated with very minute ſpots of the ſame black: the ſides and belly appear perfectly ſmooth, the naked eye being not able to diſtinguiſh the leaſt appearance of ſcales on them: the prickles on the back and belly of this fiſh, when erected, are very difficultly depreſſed, and they ariſe out of a kind of furrow: the exterior prickle of the ventral fins is lightly ſerrated at the ſides, and the membrane, which connects theſe, is of a ſilvery white: there is but one fin on the back, and that has twenty rays, the nine or ten firſt of which are prickly, robuſt, and ſhort, and are placed in an alternate order; four on each ſide turn outward, and the ninth is erect, and they are all of them affixed down to the back by a thin membrane in their lower part; the other eleven rays are ſoft and longer than theſe; the middle ones are bifid at their tops: the pinna ani has eleven rays, of which the firſt only is prickly; this is ſhort and robuſt, the reſt are ſoft, and the middle ones are bifid at their extremities: the liver in this ſpecies is very large, and of a fleſh colour, and is divided into three lobes; two of theſe are ſhort, but the third is very large, and reaches down on the right ſide, almoſt to the anus: the gall-bladder is ſmall, and is affixed to the upper part of the longeſt lobe: the heart is not ſo large as a hempſeed; it is of a triquetrous figure, with a plane baſe: the aorta is large and white; the ſpleen is ſmall, red, and obtuſely triangular, and is ſituated at the left ſide of the ſtomach: the ſtomach is long and thick, and has no appendages; the inteſtine is a little elevated above the pylorus, but from thence it tends ſtraight down to the anus, and is all the way covered with fat: the air-bladder is large, thick, and

ſimple,

ſimple, and is affixed to the back-bone; and in the lower part of the body there is alſo affixed to the ſpine an oblong, red body, which unqueſtionably does the office of the kidnies.

This ſpecies grows to about an inch and a half in length, and is very frequent with us in ſhallow waters, little brooks, rivulets, and ponds, and alſo in the ſea, among the ſtones that lie about the ſhores. Though the vulgar confound this ſpecies with the common one, the generality of authors, who have written on theſe ſubjects, have diſtinguiſhed it. Rondelet and Geſner deſcribe it under the name of Piſciculi aculeati alterum genus; Ray and Willughby call it Piſciculus aculeatus minor; Aldrovand and Jonſton, Alterum genus Pugnitii; Bellonius, Spinarella puſilla; Schoneveldt, Aculeatus minor lævis et glaber; and we, the leſſer Stittle-back, Banſtickle, or Sharpling.

Gaſteroſteus aculeis in dorſo quindecim.
The Gaſteroſteus, with fifteen prickles on the back.

The great ſea Stittle-back.

This is greatly larger than either of the other ſpecies; it grows to ſix or ſeven inches in length, and is moderately thick, in proportion: the head is oblong, narrow, and ſomewhat compreſſed; the eyes are large, and their iris is of a ſilvery grey; the pupil is round, and of a greeniſh-black; the noſtrils have each only a ſingle aperture, and are placed at nearly a middle diſtance between the eyes and the roſtrum: the back and ſides are of a deep brown, with a tinge of olive: the lower parts of the ſides and the belly are of a ſilvery white; the lateral line is large, and the whole body is of a figure approaching to ſquare: the back fin is long, and has fifteen prickly rays; the ventral fins conſiſt only of two rays each, one of them very large, and prickly; the other ſmall and inconſiderable: the breaſt and belly are covered with large, oblong bones, and the ſides are ſupported in the ſame manner.

This ſpecies is frequent in the Northern Seas; we have it on our own coaſts, but not ſo frequent as it is in Sweden, Norway, and Denmark. It is a very nimble and lively fiſh, and the ſpines about it ſeldom fail to wound thoſe who take it up, though that be done ever ſo carefully. It is extreamly voracious, and uſually is found behind a ſtone near the ſhore, or under the covert of a tuft of the fucus or common ſea-wreck, watching for whatever comes by that is ſmaller than itſelf. The writers on fiſhes have moſt of them deſcribed it. Schoneveldt calls it Aculeatus ſive Pugnitius marinus longus; Willughby and Ray give it the ſame name. The Germans call it Steinbicker and Erſkraper; and our people in Yorkſhire, the ſea Stittle-back and great Stittle-back.

F I S H E S.

Claſs the Third.

BRANCHIOSTEGI.

Fiſhes which have the tail placed perpendicularly, the rays of the fins bony, and the branchiæ deſtitute of thoſe oſſicles which defend them in the fiſh of the two former claſſes.

BALISTES.

THE Baliſtes has only one belly fin, which is ſimple, aculeated, and is ſituated perpendicularly and longitudinally, exactly in the ſame manner as the pinna ani: on the back there are two, three, four, or more, robuſt ſpines: the jaws are furniſhed with very large teeth, which are placed contiguous to each other, and are protended forwards, and have much the appearance of thoſe of the human mouth; and in other ſpecies of thoſe of the hog: the body and the head are compreſſed and broad: there is no branchioſtege membrane, as in the former claſſes of the acanthopterygious fiſhes.

Baliſtes aculeis dorſi tribus, cauda bifurca.
The Baliſtes, with three ſpines on the back, and a forked tail.

The Old-wife Fiſh.

The head of this ſpecies is large and compreſſed; the roſtrum is oblong, and is protended beyond the lower jaw: the eyes are moderately large, and their iris is ſilvery; their pupil is black; the noſtrils have each a double aperture, and ſtand at a ſmall diſtance below the eyes: the mouth is moderately large; there are eight teeth in the lower jaw; they are extreamly large, and of a ſquare figure, and there are fourteen more in the upper jaw: the ſcales are very large and very hard, and are of a ſquare figure.

The firſt back fin has three very robuſt and thick ſpines; the hinder back fin has thirty rays, but they are all ſoft and flexile: the pectoral fins have each fifteen; the belly fin, for there is but one, has fifteen, ſixteen, or ſeventeen prickly rays: the pinna ani has twenty-ſeven rays, all of them ſoft, and the anterior ones longeſt: the tail is extreamly forked, and has twelve rays.

This ſpecies grows to a foot, or more, in length, and to about five inches in breadth, but it is uſually met with much ſmaller: there is on the belly, near the ventral fin, an extreamly large and robuſt ſpine, which points backwards.

This fiſh is frequent in the Braſilian Seas. Marcgrave calls it Guaperva; and Jonſton, and moſt of the other writers, have called it by the ſame name. We have it among our collectors, who call it the Old-wife.

Baliſtes aculeis dorſi duobus cauda quadrata.
The Baliſtes, with only two ſpines on the back, and a ſquare tail.

The long Guaperva.

This is a very ſingular and a very beautiful ſpecies: it grows from ten to fifteen inches in length, but it is more frequently met with of three or four: the head is large, oblong, ſomewhat compreſſed, but flatted at the top; the eyes are large, and the noſtrils are placed a little below them; they have a double aperture each, and are very conſpicuous in the living fiſh, though much leſs ſo in the dead: the mouth is moderately large, and is furniſhed with a number of extreamly large teeth, ſtanding contiguous to one another, and protended forward: the body is longer, in proportion to it's breadth, than in the former ſpecies, but it is compreſſed in the ſame manner: the ſcales are very large, very firm and hard, and of an irregularly angulated figure, approaching to ſquare: the anterior back fin has only two prickly rays, but they are very robuſt and ſtrong; the hinder back fin has ſeveral ſoft rays; there is no ſpine at the belly: the tail is not at all forked, but approaches to a ſquare figure.

This ſpecies is caught with the former, in the Braſilian Seas. Liſter calls it Guaperva longa, cauda fere quadrata minime forcipata, capitis vertice latiuſculo.

Baliſtes cauda bifurca, pinna dorſi maculoſa.
The Baliſtes, with a forked tail, and with the back fin ſpotted.

The broad Guaperba.

This is a very ſingularly-ſhaped ſpecies: the body is compreſſed, and very broad, in proportion to the length; the head alſo is compreſſed: the eyes are ſmall; their iris is ſilvery, and the pupil round and greeniſh: the noſtrils are not very conſpicuous, but there is an appearance of a double aperture to each; the mouth is not very large, but it is well furniſhed with teeth, which are large, and placed cloſe to one another; and the anterior ones ſomewhat protended: the upper part of the head is ſomewhat flatted, but it is not broad: the ſcales are large and hard, and of a ſingular figure; on the back there ſtands a ſingle ſpine, which is large, and has the appearance of a horn; it is on every part tuberculoſe, or armed with a number of obtuſe teeth; the ſecond back fin is long, and moderately tall, and is of a pale browniſh-grey colour, variegated with ſeveral ſpots of black: the belly fin is ſingle, and ſtands in the ſame direction with the pinna ani; the tail is forked, and is of an olive colour.

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This ſpecies is frequent in the American Ocean, and we meet with preſerved ſpecimens of it in ſome of our collectors cabinets. Liſter calls it Guaperva lata cauda forcipata, pinna dorſi maculis quibuſdam diſtincta.

Baliſtes lineis ſtriatis cauda bifurca.
The forked-tailed Baliſtes, with ſtriated lines.

The ſtriated Guaperva.

This is broad, in proportion to it's length, but leſs ſo than the preceding ſpecies: the head is compreſſed, and narrow at the bottom, but it has ſomething of a flatneſs on the top: the eyes are ſmall; the noſtrils have each a double aperture, but not very conſpicuous, placed at about the midway between the eyes and the extremity of the roſtrum; the teeth are large, and are like the dentes inciſores of the human ſpecies, and are protended a little forward: the body alſo is compreſſed, and odly marked on the anterior part, but toward the tail it is regularly ſtriated in a longitudinal direction, with a number of fine ſmall lines: on the back there ſtands a ſingle ſpine, and that but a ſmall one; it is ſerrated or denticulated on the anterior part, and it's edge is ſmooth behind: the belly fin is large, and the tail is deeply forked.

This ſpecies is a native alſo of the American Ocean, and is preſerved dry in ſome of our muſæums. Liſter call it Guaperva lata corpore ad caudam ſtriata.

Baliſtes aculeis quinque in utroque latere.
The Baliſtes, with five prickles on each ſide.

The Porcupine Guaperva.

This is a ſpecies conſiderably different from all the others: it is of a compreſſed form, and is conſiderably broad, in proportion to it's length, but it is thicker than moſt of the others: the head is compreſſed; the eyes are moderately large; the noſtrils are ſcarce at all conſpicuous: the mouth is moderately wide, and is furniſhed with broad and large teeth, protended a little forwards: the belly is narrow and rounded; the ſides are but little prominent, in proportion to the thickneſs of the fiſh; there are, on each, five robuſt and firm ſpines, and toward the tail there is a remarkable hairineſs.

This ſpecies is alſo caught in the American Seas, and is preſerved in ſome of our collections. Liſter calls it Guaperva Hiſtrix.

Baliſtes aculeis binis loco pinnæ ventralis, ſolitario infra uno.
The Baliſtes, with two ſpines in place of the belly fin, and a ſingle one below them.

The Scolopax.

This is, in ſome degree, like the former, but differs in many of the eſſential characters, as a ſpecies: it grows to about four inches in length, very rarely to any thing more: the body is compreſſed and very thin, and it's breadth is not more than a fourth of it's length: the ſcales are ſmall, but they are very rough; the head alſo is compreſſed, and the roſtrum is bony, very long and ſlender, and ſtraight: the mouth is ſmall, and is at the extremity of the roſtrum, and has a kind of operculum formed for the cloſing it: the eyes are large, and their iris is of a greyiſh-white, with ſome faint tinge of the ſilvery hue: but the noſtrils are not very conſpicuous, but each has a double aperture, and they are ſituated at a ſmall diſtance below the eyes: the pectoral fins in this ſpecies have each fourteen rays, all undivided at the ends, and in the place of the belly fins there are only two ſmall ſpines like teeth, and, at a ſmall diſtance behind theſe, there ſtands another ſmall one near the anus: the pinna ani has eighteen rays; there are two back fins, and both of them ſtand near the tail: the anterior one has five prickles, of which the ſecond is longeſt, and has an articulation; the others are very ſhort; the other has twelve rays: the tail is but little forked, and the belly is very acute on the anterior part.

This ſpecies is frequent in the Mediterranean, and is brought to market at Rome. Many of the writers on fiſhes have deſcribed it. Rondelet, Aldrovand, Willughby, and Ray, all call it Scolopax; Geſner calls it by the ſame name, but he alſo believes it to be the Serra of Pliny. The Genoeſe call it the Trumlutta, and the Italians, Soffietta.

OSTRACION.

THE body of the Oſtracion is of an odd figure; it is either globoſe, ſpheric, or roundiſh, or elſe it is oval, or ovato-oblong; or, finally, ovato-quadrangular, or approaching to conic: the ſkin is always very firm and hard; in ſome of the ſpecies it is ſmooth, but in moſt it is covered either entirely with ſpines, or it has them in particular places; there are no belly fins: the number of fins in the whole is five; there are two pectoral or lateral ones, one on the back, the pinna ani, and the tail: the mouth is ſmall; the teeth, however, are large: the eyes are covered with the common cuticle: the apertures of the noſtrils are two on each ſide, and ſtand a little way before the eyes; the lips are moveable, and in part cover the teeth; there is no branchioſtege membrane.

The ſpecies of this genus are numerous, and may conveniently be arranged under ſeveral diviſions.

OSTRACIONES.

Diviſion the Firſt.

Thoſe which have numerous teeth, and are of an oblong and ſquare form.

Oſtracion oblongo-quadrangulus tuberculis quatuor majoribus in dorſo.
The oblongo-quadrangular Oſtracion, with four large tubercles on the back.

The great ſquare Fiſh.

THIS is a very ſingularly-ſhaped fiſh: the head is ſmall, and the roſtrum obtuſe; the eyes are large, and are covered with a thin ſkin; their iris is of a greyiſh-white, and the pupil round, and of a greeniſh-black: the noſtrils have each a double aperture, very conſpicuous, and ſituated at a ſmall diſtance before the eyes: the mouth is ſmall, and has a pair of moveable lips, which in part cover the teeth; the teeth themſelves are large, and ſeem quite diſproportioned to the ſize of the mouth in which they ſtand: the body is of a ſtrange figure, approaching to ſquare; the back is broad and flat; the belly alſo is broad and flat, and the ſides are very little prominent, ſo that the whole figure is tolerably regularly quadrangular: on the anterior part of the back, or but a little way behind the head, there ſtand four very remarkable protuberances: the pectoral fins are ſmall and obtuſe at the ends; the pinna ani is oblong; the back fin is ſhort, and the tail is large.

This is caught in the Eaſtern Seas, and in the mouths of the larger rivers in that part of the world: moſt of the Ichthyological writers have deſcribed it. Ray calls it Piſcis maximus quadrangularis ſive dorſo plano; Willughby, Piſcis quadrangularis tuberculis quatuor in dorſo non longe a capite inſignitus; Aldrovand, Jonſton, and Willughby call it Oſtracion prior; Geſner, Oſtracion Nili; and Willughby, in another place, Oſtracion Nili quem Bellonius Holoſteum appellat; Aldrovand and Jonſton alſo, in other places, call it Holoſteum Bellonii ſive Oſtracion Geſneri; and Charleton uſes the ſame name. It greatly reſembles the ſpecies deſcribed, under the name of Orbis ſcutatus, by the ſame authors.

Oſtracion oblongo-quadrangulus gibboſus.
The oblongo-quadrangular and gibboſe Oſtracion.

The gibboſe Oſtracion.

This is a very ſingular, but alſo a very beautiful, fiſh: the head is ſmall; the eyes are large, and are covered with a common membrane; the apertures of the noſtrils are two on each ſide, and are placed at a ſmall diſtance below them: the mouth is ſmall, and has a pair of ſomewhat fleſhy and moveable lips: the teeth are large, and are always partly in ſight, even when the lips are cloſed, for they do not meet in all parts: the body is of an extreamly ſingular figure; it is oblong, and in ſome degree quadrangular; the back being flat, and the belly flat, and the ſides parted each way from both by

by a ridge, and not very prominent. Notwithſtanding the flatneſs of the ſuperficies of the back, however, it riſes into a kind of globoſity in the whole: the ſkin is hard, and is marked all over, in a very elegant manner, with hexagonal figures: the back fin is ſhort and moderately broad; the pinna ani is longer: the lateral fins are oblong and broad, and the tail is large; they are all of a pale greyiſh-olive colour, the tail ſomewhat darker than the reſt.

Moſt of the writers on fiſhes have deſcribed this ſpecies. Aldrovand and Jonſton call it Oſtracion alter; Willughby, Ray, and Liſter, Oſtracion alter gibboſus; and the ſame authors, Piſcis quadrangularis gibboſus. We have it in plenty in the muſæums of our collectors of natural curioſities.

Oſtracion oblongo-quadrangulus roſtro acuto, maculis in dorſo et capite.
The oblongo-quadrangular Oſtracion, with an acute roſtrum, and ſpots on the back and head.

This is a moderately large ſpecies: but the head is ſmall, and the roſtrum oblong and acute: the eyes are large, and are covered with a membrane; the apertures of the noſtrils are two on each ſide, and are ſituated at a conſiderable diſtance below the eyes, toward the roſtrum: the body is of an oblong figure, and is quadrangular in ſome degree, the back and belly being both flatted, and parted from the ſides by a kind of ridge: the mouth, in this ſpecies, is remarkably ſmall; the teeth are large and diſproportioned: the general colour of the fiſh is a pale brown, with a tinge of a greyiſh-olive, but it is elegantly ſpotted on the back and on the head, with a deep colour approaching to black.

The pectoral fins are large and obtuſe at the extremity; the pinna ani is oblong; the back fin is ſhorter, and they are all of them of a pale olive-grey: the whole ſkin is hard, and there are no tubercles, nor any ſpines on any part of it.

Some of the writers on fiſhes have deſcribed it, but the generality ſeem not to have been acquainted with it. Liſter calls it Oſtracion tertius roſtratus. We meet with it in the cabinets of ſome of our collectors of curioſities.

Oſtracion quadrangulus maculis variis plurimis.
The quadrangular Oſtracion, with numerous differently ſhaped ſpots.

This is a very ſingular and a very beautiful ſpecies: the head is ſmall, and the roſtrum ſubacute; the eyes are remarkably large; they are covered with a membrane, and their pupil is round: the noſtrils have each a double aperture; they ſtand at a moderate diſtance below the eyes, and are very conſpicuous: the mouth is ſmall, but the teeth in it are numerous and large: the body is broad and thick, in proportion to it's length, and is of a ſquare figure: the back is broad, and the belly alſo is ſomewhat broad and flatted, and the ſides are ſeparated by a ridge each way, ſo that there is a ſtrong approach to a quadrangular figure: the ſkin is very hard, and the whole fiſh is tolerably ſmooth; the ground colour is a deep brown, with an admixture of yellowiſh, but it is very elegantly variegated all over with ſpots of a rounded figure, and of different magnitudes, and different colours: the ſcales are of a hexagonal figure, and have ſeveral lines and little prominences on them; on the ſides of the fiſh there is a ſingle ſpot on every ſcale, but on the belly, where the ſpots are much ſmaller, there are two or three of them on each ſcale or hexagonal figure: the upper part of the ſides is more ſpotted than the lower, and the back moſt of all.

The pectoral or lateral fins have ten rays each: the back fin has nine rays, and the pinna ani eight; the tail has ten large rays. Few of the writers on fiſhes have known any thing of this ſpecies. Liſter, in his Appendix to Willughby, calls it Piſcis mediocris quadrangularis maculoſus.

OSTRACIONES.

Diviſion the Second.

Thoſe which have numerous teeth, and are of an oblong and ſomewhat triangular form.

Oſtracion triangulatus duobus aculeis in fronte, et totidem in imo ventre.

The triangular Oſtracion, with two ſpines on the forehead, and two on the lower part of the belly.

The horned, triangular Fiſh.

THIS is about eight inches in length, and is moderately broad and thick, in proportion: the head is ſmall, and the roſtrum acute; the mouth is ſmall, and has a pair of moveable lips ſurrounding, but not entirely cloſing, it: the teeth are numerous and large; the apertures of the noſtrils are two on each ſide, and are very conſpicuous; they ſtand at about the midway between the eyes and the extremity of the roſtrum: the eyes are large, and are covered by a membrane; the body is of a triangulated form, and is covered with a number of very beautiful angulated bodies in the place of ſcales; theſe are not all of exactly the ſame form, but the greater number of them are hexagonal; they are radiated, and make a very beautiful appearance: the pectoral fins have each eleven rays; the back fin and the pinna ani have each ten rays; the tail is not forked, but equal at the extremity, and has from eight to ten long rays.

This ſpecies has not been deſcribed by the generality of writers on theſe ſubjects, but we have it in ſome of the collections of our naturaliſts. I bought a fine ſpecimen of it among the late Duke of Richmond's ſpecimens.

Oſtracion triangulatus aculeis duobus in capite, et unico longiore ſuperne ad caudam.

The triangulated Oſtracion, with two ſpines on the head, and a ſingle one at the tail.

This is alſo a very ſingular and a very beautiful ſpecies: the head is ſmall, and the roſtrum obtuſe; the mouth is ſmall, and is ſurrounded by a kind of fleſhy lips: the teeth are numerous and large; the noſtrils have each a double aperture, but they are not very conſpicuous; they are ſituated at a conſiderable diſtance above the extremity of the roſtrum; the eyes are large, and covered with a membrane, and not far from them there ariſe two irregular ſpines reſembling horns: the body is of a figure approaching to triangular, and is covered with a hard and firm ſkin, elegantly configurated and ſpotted: the pectoral fins are oblong and obtuſe, and have each ten rays; the pinna ani has eight rays, and the back fin nine; the tail is large, and not forked, it has eleven long rays, and is of a duſky greyiſh colour.

Many of our collectors have dried ſpecimens of this ſpecies. Liſter, in his Appendix to Willughby, calls it Piſcis triangularis capite cornutus, cui aculeus longus ad caudam erigitur.

Oſtracion triangularis limbis figurarum hexagonarum eminentibus, aculeis duobus in imo ventre.

The triangular Oſtracion, with the verges of the hexagonal figures eminent, and with two ſpines on the belly.

This is a very ſingular ſpecies in it's form, and is the largeſt of all the triangular kinds: the head is irregularly ſhaped; the roſtrum is obtuſe; the mouth is very ſmall, and the teeth in it diſproportionately large: the eyes are large, and are covered with the common ſkin of the head: the noſtrils are conſpicuous; they have each a double aperture, and are ſituated at a middle diſtance between the eyes and the extremity of the roſtrum:

roſtrum: the body is of an extreamly ſingular figure, approaching to triangular: the ſkin is hard and firm, and is every-where formed into a ſingular kind of hexagonal figures, which are ſtriated, and have their edges prominent; it has no ſpots, but is uniformly of the ſame browniſh colour: the teeth in the lower jaw are about eight in number, and thoſe in the upper are eleven or twelve; the lips are moveable, and, in part, cover them; the pectoral or lateral fins are ſhort and ſomewhat broad; the back fin ſtands very backward; the pinna ani is long and low, and the tail is long.

This ſpecies is a native of the American Seas, but we meet with dried ſpecimens of it very frequently. Cluſius calls it, ſimply, Piſcis triangularis; Ray and Willughby, Piſcis triangularis Cluſii cornubus carens.

Oſtracion triangulatus totus maculatus ac tuberculoſus, aculeis duobus in imo ventre.

The ſpotted and tuberculoſe triangular Oſtracion, with two ſpines on the belly.

This nearly approaches to the ſize of the former ſpecies: the head is large and extreamly irregularly ſhaped; the eyes are large, and are covered with the cuticle; the covering of the head about the eyes, and principally above them, riſes into a kind of eminences reſembling eye-brows: the noſtrils have each a double aperture; they ſtand at about a middle diſtance between the eyes and the end of the roſtrum: the mouth is ſmall; there are eight very large teeth in the lower jaw, and twelve in the upper, and the whole mouth is ſurrounded with a kind of lips, that in a great meaſure, but not entirely, cover them: the body is of a figure approaching to triangular; the ſkin is hard and firm, and is all over beſet with tubercles at ſmall diſtances, and has, between theſe, brown ſpots larger than the tubercles; theſe are round, and all of nearly the ſame ſize: the back of this ſpecies is more gibboſe and acute than that of any other; the pectoral fins are broad, and have each eleven or twelve rays; the back fin has ten rays; the pinna ani alſo and the tail have each the ſame number: the whole fiſh is of a duſky brown, with a tinge of yellowiſh; the tubercles are paler than the reſt, and the ſpots between them are of a reddiſh tinge with the brown.

It is a native of the American, and ſome of the Eaſtern, Seas, and is ſometimes ſent over to us preſerved as a curioſity. Liſter, Ray, and Willughby call it Piſcis mediocris triangularis ad imum ventrem prope caudam cornutus, ex toto maculis æqualibus ſubrufis denſe inſignitus.

Oſtracion triangulatus tuberculis hexagonis radiatis, aculeis duobus in imo ventre.

The triangular Oſtracion, with hexagonal, radiated tubercles, and with two ſpines on the belly.

This is one of the ſmalleſt ſpecies of this genus: the head is ſmall; the mouth is very ſmall, but the teeth are large and numerous; there are no leſs than eight in the lower jaw, and twelve in the upper: the noſtrils are very conſpicuous; they have each a double aperture, and ſtand at about a middle diſtance between the eyes and the extremity of the roſtrum: the eyes are large, and are covered with the cuticle; the body is of an irregularly triangular figure; the back is gibboſe and very acute, and the belly is broader than in moſt other ſpecies: the ſkin is very hard and firm; it riſes into a kind of eminences reſembling eye-brows on the upper part of the head, and there are on each ſide two large ſpots: on the body it is formed into hexagonal figures, which are radiated, and the radiations formed of ſmall tubercles, and there are two tranſverſe lines on them: the pectoral fins have each twelve rays; the dorſal fin, the pinna ani, and the tail have ten rays each.

This ſpecies is brought to us dried, with the others, from the American Seas. Liſter, Ray, and Willughby have called it Piſcis triangularis parvus, non niſi imo ventre cornutus.

Oſtracion triangulus tuberculis exiguis innumeris, aculeis carens.
The triangular Oſtracion, with numerous ſmall tubercles, and no ſpines.

The head of this ſpecies is ſmall; the roſtrum obtuſe, and the mouth extreamly ſmall: the teeth are large, and there are about eight in the lower, and eleven in the upper, jaw; the eyes are large, and covered with the cuticle: the noſtrils are not eaſily ſeen; they have each a double aperture, but very ſmall, and placed at a little diſtance below the eyes: the upper part of the head is rounded, and the ſkin above the eyes ſomewhat elevated: the back is gibboſe and acute; the belly is very broad, and the whole body very much of a triangular figure: the ſkin is hard, and the ſcales, if they may be called ſo, are of a hexagonal, or perhaps, more properly ſpeaking, of a triangular, figure: the other angles being ſcarce perceptible, they riſe each into an eminence in the middle, and are ornamented with a vaſt number of little tubercles, which are diſpoſed regularly in lines, and render them ſtriated: the general colour of the fiſh is a pale brown, with a very ſlight tinge of yellowiſh in it; but it is variegated with a great number of white ſpots, eſpecially toward the back; there are from one to four of theſe on each ſcale: the pectoral fins have twelve rays each; the dorſal or back fin has ten rays; the tail is rounded at the extremity, and has eight or ten rays.

We have this brought over dried, with the others, from the Eaſtern and American Seas. Liſter calls it Piſcis triangularis ex toto cornubus carens.

OSTRACIONES.

Diviſion the Third.

Thoſe which have only four teeth.

Oſtracion ſphæricus tetraodon aculeis undique exiguis.
The ſpheric, four-toothed Oſtracion, with ſhort ſpines all over the body.

The Globe-fiſh.

THIS is one of the ſmaller ſpecies; it rarely exceeds ſeven inches in length, and is about as much in diameter, the body being nearly of a ſpherical figure, excepting for the part toward the tail: the head is ſcarce at all diſtinguiſhed from the reſt of the body; the mouth is ſmall, and has only four teeth in it: the eyes are large, and covered with a cuticle; they ſtand high upon the head: the apertures of the noſtrils are two on each ſide, and are very conſpicuous; the whole body is covered with ſhort ſpines of a whitiſh colour and firm texture, placed at a ſmall diſtance from one another: the pectoral fins are broad and ſhort; the back fin and pinna ani ſtand oppoſite to one another, and at a great diſtance from theſe the tail is oblong; the colour of the whole fiſh is a duſky brown, with an admixture of yellowiſh and of olive colour.

It is frequent about the mouth of the Nile, and of ſeveral of the larger rivers in Africa and the Eaſt Indies; all the writers on fiſhes have deſcribed it. Pliny, Bellonius, Rondelet, Iſidore, Salvian, Geſner, and Jonſton, all call it, ſimply, Orbis; Ray and Willughby, Orbis primus; Charleton, Orbis vulgaris; Aldrovand, Orbis ſpecies ex Geſnero. The Venetians call it Peſce Columbo. Dried ſpecimens of it are very frequent in the muſæums of our collectors.

Oſtracion maculoſus aculeis undique denſis exiguis.
The ſpotted Oſtracion, with frequent ſmall ſpines.

The rough Globe-fiſh.

This grows to about twelve inches in length, and to eight or nine in diameter: the anterior part of the body approaches to a ſpherical figure, but it is lengthened at the tail: the eyes are large and covered with the cuticle; the noſtrils are conſpicuous, and ſtand at about an equal diſtance from the eyes, and at the extremity of the roſtrum there are two apertures to each: the mouth is ſmall, and the teeth are only four: the whole body is beſet with ſmall, whitiſh, bony ſpines, placed at ſmall diſtances, and the tail is of an oblong form: the ground colour of the fiſh is a pale whitiſh-brown, but

but it is all over ſpotted with ſmall, round, or leſs regularly figured dots of black, or of a very deep reddiſh-brown.

This is brought to us dried from the Eaſtern Seas, and has ſometimes been caught in the Mediterranean. Liſter, in his Appendix to Willughby, calls it Orbis aſper maculoſus.

Oſtracion cathetoplateo-oblongus ventre tantum aculeato, et ſubrotundo.
The oblong and compreſſed Oſtracion, with only the belly rounded and prickly.

This is the moſt ſingular in it's figure of all the ſpecies of this remarkable genus: it grows to about a foot in length, but does not exceed five inches in diameter in the largeſt part: the mouth is ſmall, and has only four teeth, which are but imperfectly covered by the lips: the eyes are large, and ſtand high; they are covered with the cuticle: the noſtrils have each a double aperture, placed at ſome diſtance below the eyes, and not very conſpicuous: the body is of an extreamly ſingular figure; it is oblong, and the back is not elevated but ſtraight, and the hinder part of the body, toward the tail, is ſlender: what gives it the reſemblance of the reſt of this genus is, that the belly is rounded and prominent, in the manner of that of the others of this kind: the back and the ſides are ſmooth; the belly, in this prominent part, is covered with ſpines: the pectoral fins are broad and ſhort; the dorſal fin and the pinna ani are ſmall; the tail is large, and is ſomewhat forked, but not very deeply.

We have this dried from the Eaſt, and from America, and it is not uncommon in the collections of our naturaliſts. Willughby calls it Orbis cauda productiore, dorſo lævi, ventre ſpinoſo; and Grew, in his catalogue of the muſæum of the Royal Society, Orbis lagocephalus.

OSTRACIONES.

Diviſion the Fourth.

Thoſe which have bony jaws, without any diſtinct teeth.

Oſtracion ſphæricus aculeis undique denſis triquetris.
The ſpherical Oſtracion, with numerous triquetrous ſpines.

THIS is a ſmall but a ſingular and beautiful ſpecies: the general ſize is about that of a gooſe's egg, to which it in ſome degree approaches in form: the head is ſmall, and not at all erect; the eyes are ſmall, and covered with the cuticle: the mouth is ſmall, and the jaws are bony; there is a diviſion, which gives the appearance of two teeth, but in reality there is no tooth at all: the noſtrils are ſcarce at all conſpicuous; there are, toward the eyes, two ſmall apertures; the lower one round and ſmall, the upper larger, oblong, and tranſverſe; but they are not diſtinguiſhable, except on a very cloſe attention: the whole body is covered with ſpines of a bony ſtructure, ſhort and triangular at the baſe; thoſe on the back and toward the head are longer than the others, the reſt are about equal in length: the general colour of the fiſh is a pale brown; the ſpines are whiter than the reſt, and the fins, which are nearly of the colour of the ſkin, are ſpotted with a deeper brown, approaching to black.

We have dried ſpecimens of this, as of the others, from the Eaſt, and from America. Liſter calls it Atinga alter minor orbicularis.

Oſtracion ſubrotundus aculeis undique brevibus planis, ventre glabro.
The roundiſh Oſtracion, with ſhort plane ſpines, and with the belly ſmooth.

The head of this ſpecies is ſmall and erect; the eyes are large, and covered with the cuticle; the mouth is ſmall, and the jaws are bony and hard, but there are no teeth: the lips are fleſhy and moveable, and, when cloſed, they cover the jaws almoſt entirely: the noſtrils are very conſpicuous; they have each a double aperture, and ſtand at about an equal diſtance from the eyes, and the extremity of the roſtrum: the body approaches to a ſpherical figure; the back and ſides are furniſhed with a great number

of ſhort and flat ſpines, and the belly is ſmooth: the general colour is a pale yelloweiſh-brown, but behind each of the pectoral fins there ſtands a black ſpot; at the root of the back fin there is alſo, on each ſide, a black ſpot, and there are ſome other ſmall ones of the ſame colour about the head.

This is a native of the Braſilian Seas. Marcgrave calls it Guamaiacu atinga; Willughby and Ray, Orbis ranæ rictu; and Cluſius, in his Exotics, Orbis ſpinoſus. The mouth, when opened, is ſomewhat like that of a frog in ſhape, not round, as in the other ſpecies, but flat.

Oſtracion ſubrotundus aculeis undique brevibus triquetris raris.
The roundiſh Oſtracion, with flat, triquetrous, and rare ſpines.

This is of a figure conſiderably different from the preceding ſpecies: the back and belly are both a little flatted; the ſides are rounded and prominent: the mouth is ſmall, and the jaws are naked and bony, but there are no teeth: the eyes are ſmall, and are covered with the ſkin of the head; the noſtrils have each a double aperture, and are fairly conſpicuous: the covering of the head, juſt over the eyes, is raiſed into an oblong eminence on each ſide; the mouth ſtands high in the anterior part of the head, in a very ſingular direction: the body is of a figure, in general, approaching to ſpherical, but depreſſed: the ſpines on it are not large; they are broad and triangular at the baſe, and they do not ſtand ſo cloſe as in many of the other ſpecies: the general colour of the body is a pale brown, but there are on ſeveral parts of it ſpots of a deep black.

We have ſpecimens of this from the American Seas, but it is not ſo frequent in our collections, as many of the other ſpecies. Liſter calls it, Orbis muricatus et reticulatus; others, Orbis muricatus.

Oſtracion rotundo-oblongus tuberculis utrinque, pinna dorſi longiſſima.
The oblong Oſtracion, with tubercles on both ſides, and with the back fin very long.

This is an extreamly ſingular ſpecies, and carries the general appearance, in many reſpects, of a fiſh of ſome other genus: the head is ſmall; the opening of the mouth is wider than in moſt of the others, but it is not round but flat: the body is of an oblong and rounded figure, and the fiſh grows to a foot and a half in length: there run on each ſide of the body two longitudinal ſeries of ſpines or tubercles: the back fin, quite contrary to all the preceding ſpecies, is extreamly long, and runs from the back part of the head quite to the tail.

We have ſpecimens of this from the American Seas, but it is more rare than many of the other ſpecies. This is properly the ſpecies which Cluſius calls Orbis ranæ rictu, the frog-mouthed Orbis, though the authors who have followed him, have quoted him as uſing that name for a very different ſpecies before deſcribed. Indeed all theſe toothleſs ſpecies have the mouth of this flat form, when opened, not round as the others.

Oſtracion ſubrotundus aculeis undique denſis, baſi triquetris.
The roundiſh Oſtracion, with numerous ſpines on all parts, triquetrous at the baſe.

The head of this ſpecies is ſmall; the eyes are very large, and covered with the cuticle: the mouth is ſmall, and has fleſhy lips; there are no teeth, but the jaws are naked and bony: the noſtrils have each a double aperture, and ſtand at a ſmall diſtance below the eyes: the whole fiſh is about ſixteen inches in length; the body is rounded, and is all over covered with ſpines ſet very cloſe and thick; they are not very long, but are robuſt, and are of a triquetrous figure at the baſe: there are no belly fins; the pectoral ones are broad and ſhort; the back fin and pinna ani are oblong and narrow; the tail is oblong: the colour of the whole fiſh is a pale brown; the ſpines are whiter than the reſt of the ſkin, but there are no ſpots nor variegations of any kind on it.

We

We have ſpecimens of this brought dried and ſtuffed from the Eaſt, where it is frequent about the mouths of large rivers. Authors ſeem to have imperfectly deſcribed it under the name of Orbis muricatus, but they have given the ſame name alſo to other ſpecies, which they have confounded with it. Willughby and Ray ſuppoſe it the ſpecies Cluſius meant by this name, and call it Orbis muricatus Cluſii.

Oſtracion conico-oblongus aculeis undique longis teretibus, imprimis in lateribus.
The conico-oblong Oſtracion, with long rounded ſpines all over it, eſpecially on the ſides.

The Porcupine-Fiſh.

The head of this ſingular ſpecies is ſmall, plane, and exerted; the eyes are very large, and covered with the cuticle; the mouth is ſmall; the lips are fleſhy and moveable, and the jaws are bony and naked, but there are no diſtinct teeth: the noſtrils are not very conſpicuous, but they have each a double aperture, and are placed at a little diſtance below the eyes: the body is of an oblong figure, approaching to conic, and is covered in all parts with very long ſpines; thoſe at the ſides are often near three inches in length; there are four very ſharp and robuſt ones juſt over the eyes, and all thoſe about the mouth point forwards; they ſtand very cloſe on the middle of the body, but more thin toward the tail: the general colour of the ſkin is a tawny brown, but there are a number of black ſpots on ſeveral parts of it; and the general colour is deeper toward the head and tail than in the middle.

This ſpecies is caught about the mouths of large rivers in Africa and the Eaſt Indies, and is deſcribed by moſt of the authors who have written on fiſhes. Cluſius calls it Hyſtrix piſcis, and moſt of the ſucceeding authors have borrowed the ſame name.

Oſtracion oblongus holocanthus aculeis longiſſimis ad caput.
The oblong Oſtracion, with very large ſpines about the head.

The ſmall-headed Porcupine-fiſh.

The head is ſmall and ſlender; the eyes are large, and covered with a cuticle: the noſtrils are conſpicuous; they ſtand high on the head, and have each a double aperture: the mouth is ſmall, and the jaws are naked and bony, but there are no regular teeth: the body is of an oblong figure, inflated or rounded in the middle, but ſmall both at the head and toward the tail: the whole body is covered with ſpines of an oblong form, and tolerably robuſt; but the longeſt and moſt formidable are on and about the head: toward the tail they are ſhort, and not ſo numerous, but they are very robuſt: the general colour is a duſky olive-brown, but the ſpines are much paler than the ſkin.

It is brought to us ſtuffed from the Eaſt. Liſter calls it Hyſtrix alter capite anguſto, ſubrotundo, et admodum ſpinoſo, ſcilicet ſpinis prælongis in ipſo capite et ſcapulis donatus.

Oſtracion oblongus glaber capite oblongo, corpore figuris variis ornato.
The oblong Oſtracion, with a ſmooth body, ornamented with figures.

The tortoiſe-headed Porcupine-Fiſh.

This is a large ſpecies; we ſometimes ſee it of eighteen or twenty inches long, but thoſe of about a foot are more frequent: the head is ſhort, broad, and ſomewhat flatted; the body is of an oblong figure, but very much diſtended and rounded; the eyes are large, and are covered with a cuticle: the noſtrils are ſufficiently conſpicuous; they have each a double aperture, and are ſituated at a ſmall diſtance before the eyes: the mouth is ſmall, and the jaws are naked and bony, but there are no regular teeth: the pectoral fins are ſhort and broad; the back fin and the pinna ani are oblong and obtuſe; the tail is oblong: the ſkin of the whole body is firm, tough, and ſmooth; there

there are no ſpines on any part of it: the ground colour is a pale tawny-brown, but it is elegantly variegated with ſpots in different figures.

It is frequent about the ſhores of the American iſlands. Cluſius, Willughby, Ray, and others call it Orbis oblongus teſtudinis capite; Sir Hans Sloane, Orbis lævis oblongus cinereis et fuſcis maculis notatus.

Oſtracion cathetoplateus ſubrotundus inermis aſper, foraminibus quatuor in capite.

The compreſſed, roundiſh, rough-ſkinned Oſtracion, with four holes on the head.

The Sun-fiſh.

This is one of the moſt ſingularly-ſhaped fiſh in the world: it is of a very conſiderable ſize, often weighing more than a hundred pounds; and it's figure, at firſt ſight, more reſembles that of the head of ſome large fiſh cut off from the body, than of a compleat animal of this kind: the head is ſmall, and not much diſtinguiſhed from the body; the eyes are ſmall, and are covered with a cuticle; the whole body, as well as the head, are of a compreſſed form: the ſkin is very rough: the colour on the back is blackiſh, and on the belly it is a ſilvery white: the belly and back are both ſharp and edged: the noſtrils are conſpicuous; they have each two ſmall apertures, but beſide theſe there are four large apertures or foramina on the head: the pectoral fins are ſmall, of a roundiſh figure, and are placed horizontally; they have each twelve rays: the apertures of the gills are of an elliptic figure, and are ſituated on each ſide at the roots of the pectoral fins; there is one fin on the ſummit of the back, and the pinna ani ſtands exactly over-againſt it on the belly: the tail is ſemicircular and perpendicular; it ſurrounds the extremity of the body.

The liver is undivided; the gall-bladder is large; the kidnies are very large, and the ureters run in a very conſpicuous manner to the urinary bladder: the inteſtines are thick, and full of circumvolutions; it is ſaid to be viviparous, but this is not yet well atteſted: the bones are cartilaginous; the fleſh is ſoft, and is more than that of all other fiſh liable to ſhine in the dark.

It is caught frequently in the Mediterranean, and ſometimes in other places. It has been taken about the coaſts of Cornwall, and ſome other parts of England.

This ſingular fiſh was well known to the antients. Pliny calls it Orthagoriſcus; and Geſner, and ſeveral others follow him, in calling it, ſimply, by that name; Rondelet calls it Orthagoriſcus ſive Luna piſcis; Salvian, Jonſton, Willughby, and Ray, Mola. We call it the Sun-fiſh; and in ſome places, from it's flat figure and rough ſkin, the Millſtone-fiſh.

CYCLOPTERUS.

THE body of the Cyclopterus is thick, oblong, and approaching to a rounded figure: the ventral fins coaleſce at their extremities, and form a ſingle, oblong hollow, and, in ſome degree, infundibuliform fin: the fins are ſix, and the branchioſtege membrane on each ſide contains ſix oblong and ſlender bones.

Of this genus there is but one known ſpecies.

CYCLOPTERUS. The Lump-fiſh.

This is a very ſingularly-ſhaped fiſh, extreamly thick, in proportion to it's length, and of a remarkably clumſy figure: the head is moderately large; the eyes are ſmall, and are covered with a cuticle: the mouth is moderately large, and there are a great number of ſmall but ſharp teeth in the jaws and fauces: the noſtrils have each only a ſimple aperture, and that is oblong and tubulous: the back of the fiſh is elevated into a ridge; the belly is broad and flat: there are no ſcales, but on ſeveral parts of the body there are ſeries of low but ſharp tubercles: the colour is variegated of black and an elegant pale red and whitiſh; the tubercles are all of them black, and the back is blackiſh: on each ſide there are three ſeries of acute and crooked tubercles turning backward, and on the back there is a ſingle ſeries, conſiſting of eight of theſe tubercles: the upper ſeries on the ſides has twenty-ſix of them, the middle ſeries has ſixteen, and the lower one has eight tubercles: before the back fin there ſtands a cutaceous protuberance, emulating alſo the form of a fin, but ſupported by

by no rays: the back fin has nine rays; the pectoral fins ſtand very near the mouth of the fiſh, and have each twenty rays: the pinna ani has ſeven or eight rays, and the tail has ten: the kidnies and the urinary bladder in this ſpecies are remarkably large.

It is frequent about our own coaſts, and in moſt of the Northern Seas, but no where ſo very plentiful as in the Baltic; it's fleſh is very well taſted. Turner, Geſner, Aldrovand, Jonſton, Charleton, Willughby, and Ray, all call it Lumpus Anglorum; Schelbammer, Lumpus Anglorum piſcis; Geſner, Orbis Britannici ſive oceani ſpecies; and Schoneveldt, Lepus marinus noſtras, orbis ſpecies. The Swedes call it Syurigg-fiſh; the Dutch, Snotolff; the Scots, the Cock-paddle; and we, the Lamp-fiſh, or Sea-owl.

LOPHIUS.

THE figure of the Lophius is monſtrous and irregular, unlike that of all other fiſhes: the head is equal to all the reſt of the body in ſize; the head and body are both of a depreſſed form: there are a number of fleſhy pinnules or appendages ſurrounding the whole body of the fiſh.

Lophius ore cirroſo.
The Lophius, with a bearded mouth.

The Rana Piſcatrix, or Frog-fiſh.

This is one of the ſtrangeſt fiſh in the world; it's figure and characters are indeed ſo ſingular, that one of them accidentally caught on our coaſts, and brought to London, proved, for many years, a livelihood to the perſon who ſingly ſhewed it: it grows to five or ſix feet in length, and it's head, in this caſe, is near two feet in diameter: the head is of a rounded but depreſſed figure, and is more than equal to the whole body in ſize; the opening of the mouth is enormouſly wide, and the apparatus of teeth very terrible: there are ſeveral ſeries of them in each jaw, and in the fauces alſo, and at the root of the tongue: they are oblong, ſlender, and ſharp, and all turn inwards, ſo that it is impoſſible for any thing, once ſeized on, to make it's eſcape: the lower jaw is longer than the upper, and the mouth ſeems incapable of cloſing perfectly. The diſproportion of the head to the body gives the whole fiſh ſomewhat of the figure of the tadpole: the eyes are large; their iris is grey, and the pupil round and blackiſh: there are no conſpicuous noſtrils, but ſeveral little protuberances in the place where they might be expected: there are many elegant lines diſpoſed in meanders on the head, and continued to the lateral line; the eyes are placed not in the ſides of the head, but on it's top, yet at a conſiderable diſtance from one another; and it is ſingular that there runs a tranſverſe line of white, or of the colour of the iris, through the pupil: near the extremity of the roſtrum there ſtand two bodies of an oblong, ſlender form, reſembling pieces of whale-bone, and on the ſummit of each is a whitiſh, fleſhy protuberance; theſe it vibrates about at pleaſure, and there are three other ſhorter, of the ſame form and ſtructure, on the back: the eyes have ſeveral ſpines about them, and there are others toward the verge of the jaw, and on different parts of the head beſide: the body of the fiſh is very inconſiderable, in proportion to it's head; it is oblong, ſmall, and depreſſed; the back is flatted, and of a duſky greyiſh-colour, with ſome variegations: there is but one back fin; this ſtands near the tail, and has ten rays: the tail is large, and is not forked at the end; the pectoral fins ſtand at the ſides of the fiſh, and have each twenty rays: the pinna ani ſtands over-againſt the back fin, and has nine rays, but the moſt ſingular fins are the ventral ones; they ſtand very high, and are placed contiguous to each other; they have each five rays, and are divided into ſo many parts very deep toward the baſe, and, being thick, fleſhy, and of a pale reddiſh-colour, they have greatly the appearance of hands with their fingers: the appendages, ſurrounding the body of the fiſh, are of the nature of theſe ventral fins, only very ſmall: the apertures of the gills are very large; they are under the roots of the pectoral fins, and the gills are three on each ſide: the inteſtines are very long, and have many circumvolutions; there are two appendages to the pylorus; the urinary bladder is very large. It is a very ſluggiſh fiſh, and uſually lies flat on the bottom, in which poſture it's eyes are turned full upward, and diſtinguiſh every thing above it.

We have it in our own ſeas, but not common; that which was ſhewn in London was caught near Dover. It had ſeized upon the body of a drowned woman, and could not diſengage it's jaws, but, on taking the body up, was brought on ſhore with it.

This fiſh has been known at all times to the naturaliſts. Ariſtotle calls it Ἅλιας βάτον; and, in other places, Βάτραχος ἁλιεὺς; Ælian calls it Βάτραχος ἁλιεὺς; Athenæus and Oppian, ſimply, Βάτραχος; Ovid, Pliny, Cicero, and the reſt of the old Latin writers call it Rana and Rana marina; Bellonius, Salvian, and moſt of the moderns, Rana piſcatrix; Geſner calls it Rana piſcatrix ſive marina; and Aldrovand, Rana piſcatrix vulgaris. We call it the Toad-fiſh, the Frog-fiſh, and the Sea-devil.

There is but one other known ſpecies of this ſingular genus, that is, the American frog-fiſh, with a ſingle horn on it's head. Marcgrave and others after him have called this, by it's Braſilian name, Guacucuja; Linnæus calls it, Lophius fronte unicorni.

FISHES.

Claſs the Fourth.

CHONDROPTERYGII.

Fiſhes, with the tail placed perpendicularly, and with the rays of the fins not bony, but of a cartilaginous ſubſtance.

PETROMYZON.

THE foramina or apertures of the gills, or of the lungs, are in the Petromyzon ſeven on each ſide, ſituated longitudinally; and there is, beſide theſe, one in the middle of the head, between the eyes: the body is long and ſlender, and nearly cylindric, and is ſmooth; there are only two fins, and thoſe are both on the back of the fiſh.

Petromyzon unico ordine denticulorum exiguorum in limbo oris, præter inferiores majores.

The Petromyzon, with a ſingle row of little teeth in the verge of the mouth, beſide the lower large ones.

The Lamprey-eel.

This grows to about a foot long, but what are uſually caught are under that ſtandard: the body is ſlender, almoſt cylindric in figure, but a little compreſſed, eſpecially toward the tail; it is all over perfectly ſmooth, or without the leaſt appearance of ſcales, and is covered with a lubricous, tough matter in the manner of the eel; the whole back and the belly are convex: the colour on the back is a ſimple bluiſh-green, without any variegations; on the belly it is white and ſilvery: the head is but very little diſtinguiſhed from the body; it is only ſomewhat ſmaller and ſlenderer; it's ſhape is rounded, and there are no diſtinguiſhable jaws: the mouth is not at the extremity of the roſtrum, but on it's under part, and is round, large, and may be rendered wider or narrower by the creature's power of ſucking, and drawing it more or leſs in: there is a row of extreamly minute teeth in the verge or rim of the mouth; and in the upper part of it, within this limb, there are about ſix other ſeries of teeth of the ſame ſize and form: at the ſides of the mouth there are alſo three bones or teeth, of which the upper one is bifid, the ſecond is ſometimes trifid, ſometimes only bifid alſo, and the loweſt is always bifid; in the lower part, juſt at the entrance of the mouth, there is alſo a bone of an oblong figure, and ſerrated, ſo as to repreſent the diviſions of ſeven teeth; and above this there is a ſemilunar and conſiderably thick bone: and, finally, deeper in the mouth there is another bone, armed with ſeven teeth, which is connected ſo looſely, that it may be eaſily pulled out; and at the lower part of the fauces there is a bifoliate cartilaginous officle of a very odd figure: ſuch is the ſingular armature of the mouth of this little fiſh.

The

The eyes are round, ſmall, and ſituated very diſtant from the roſtrum, and covered with a cuticle: their iris is of a ſilvery white, but obſcured by a number of little black ſpots; it eaſily becomes red, on preſſing the fiſh, in handling it, but that is not it's natural colour; near the eyes, and in other parts of the head, there are ſome little punctula, having the appearance of ducts, but nothing can be preſſed out of them: there are no viſible noſtrils, but there are two foramina or openings on the middle of the head; a little before the eyes theſe run backwards, and have not their opening, as is uſually ſuppoſed, into the mouth, but are continued to the lungs, and communicate with their anterior part, after paſſing in form of a duct all along, between the two bodies of which they are formed. There run in a ſtraight line a ſeries of ſeven roundiſh or oval apertures on each ſide, from the head downwards; theſe anſwer the purpoſes of the gills in other fiſhes.

In the middle of the head of this fiſh, between the eyes, there is uſually a round, large, red ſpot, but this is ſometimes faint, ſometimes almoſt entirely wanting; ſometimes it has no redneſs, but is merely white: the under part of the fiſh is wholly naked; there are no pectoral fins, no ventral ones, nor any pinna ani: there are on the back two fins; they are membranaceous and ſoft, and are both ſituated near the hinder part: the anterior of theſe is the ſmaller and ſhorter, the hinder one is taller and longer; it is higheſt in the middle, and decreaſes to the extremity: juſt as it approaches the tail, it becomes extreamly low, and after this is again a little broader, and ſurrounds the extremity of the tail; ſo that what is called the tail in this ſpecies is not properly ſo, but is only a continuation of the hinder back fin. From the termination of the hinder part of this tail fin, there runs a ſlender red eminence, in form of a thread, to the anus: both the fins of the back are ſupported by cartilaginous inſtead of bony rays; they are numerous, and are ſimple at the botrom, but from the middle upwards they are bifid; this, however, is not to be diſtinguiſhed, unleſs the ſkin of the fiſh be pulled off.

There is no regular lateral line, but there ſtand certain punctula, at a diſtance from one another, in the anterior part of the body; but theſe are not diſtinguiſhable, unleſs when the fiſh is freſh caught: the inteſtine is ſimple, and has no volutions, but runs ſtraight from the ſtomach to the anus: the ovary is ſingle, but it is divided into a number of lobes; the liver is large and undivided; the heart is conic, there is no diſtinguiſhable air-bladder: the ſtomach is large and red; there are no gills, but in the place of them there are ſeven bodies on each ſide, which ſupply the place of lungs, and have ſomewhat of the form of thoſe of ſome animals; each of theſe has it's aperture in the anterior part, communicating with the external aperture which runs obliquely to it.

This fiſh is frequent with us in our brooks and rivulets in ſome places, and is common alſo to moſt of the northern parts of Europe: all the Ichthyological writers have deſcribed it. Rondelet, Geſner, Willughby, and Ray call it Lampetra parva et fluviatilis; Aldrovand, Jonſton, Schoneveldt, and Charleton call it Lampetra fluviatilis Geſneri; Salvian, Lampetra ſubcinerea maculis carens, and, in other places, Lampetra minor; Aldrovand has alſo called it Lampetra minima; Pliny and moſt of the old Latin writers mean this ſpecies by their Muſtela: Bellonius alſo calls it Muſtela fluviatilis, and Auſonius, Muſtela; Caſſiodore calls it Exormiſtos, and Albin, Muræna.

Many of the writers on fiſhes have alſo deſcribed it over again, as if of a different ſpecies, under the name of Alterum genus Lampetræ and Lampredæ genus minus; Salvian alſo calls it, in this ſtate, Pryk; and Jonſton and Aldrovand, Fricka. We call it a Lampern; Plot calls it the Pride of the Iſis; the Swedes call it Natting and Nuenogen; and the Germans, Nuenangen.

Petromyzon maculoſus ordinibus dentium circiter viginti.
The ſpotted Petromyzon, with about twenty rows of teeth.

The Lamprey.

This grows to two feet and a half, or more, in length, but the greater number that are caught are much leſs: the head is ſmall, rounded, and obtuſe, and ſcarce at all diſtinguiſhed from the body, except by it's want of thickneſs: the eyes are ſmall; they ſtand on the ſides, not at the top of the head, and are placed very high, or at a great diſtance from the extremity of the roſtrum; the noſtrils are not conſpicuous:

the mouth is large and rounded, and is ſituated on the under part of the head: the teeth are ſmall, but extreamly numerous; there are not leſs than twenty rows of them: the body is conſiderably thicker than that of the former ſpecies; the back is of a duſky greyiſh-blue, with a number of ſpots, ſome of which are yellow, but the greater part black; there is alſo a white ſpot on the top of the head: the belly is of a ſilvery white, and the ſides of a gradual decreaſe of the olive tinge to this abſolute whiteneſs: the whole under ſurface of the fiſh is ſmooth; there are no fins, except on the back; there are two there, the anterior ſhort, the poſterior longer.

We have this ſpecis in ſome of our rivers toward the ſea, but it is leſs frequent than the former. All the Ichthyological writers have deſcribed it, and the greater part of them have called it, ſimply, Lampetra; Geſner calls it, Lampreda marina; Salvian, Lampetra maculoſa et bicubitalis; Aldrovand and Jonſton, Lampetra major; Bellonius and Geſner, Muſtela ſive Lampetra. The Italians call it Lampreda, and we the Lamprey, or the Lamprey-eel. This ſpecies ſeems to be the Ἐχενὶς of Oppian, and Γαλεξία of Galen. The other Greek writers call it Μύραινα ποταμία; but moſt of the authors of that nation have not been at all acquainted with it, as Galen, who ſaw it at Rome, obſerves that it was never found in the ſeas about Greece.

Petromyzon corpore annuloſo, appendicibus utrinque duobus ad os.
The annulated Petromyzon, with two appendages on each ſide at the mouth.

This is a very ſmall ſpecies; it rarely exceeds eight inches in length, and is very ſlender, in proportion: the head is ſmall, rounded, and obtuſe; the eyes are extreamly ſmall, and ſcarce viſible; the mouth is very ſmall, and formed like the round opening of a purſe under the head: the noſtrils are not diſtinguiſhable; the body is very ſlender and rounded, and not equal and ſmooth as in the other ſpecies, but annulated in the manner of that of the inſect-kind, only not ſo deeply: the back is of a duſky olive colour; the ſides have a tinge of yellowneſs; the belly is white and ſilvery; there are apertures to the lungs, as in the other ſpecies, ſeven on each ſide, and two at the top of the head: the belly is ſmooth, and without fins, but toward the end of the back there are two; the anterior one ſhort, the hinder oblong, and both ſupported by cartilaginous rays. What diſtinguiſhes this from both the other ſpecies the moſt obviouſly, however, is, that it has on each ſide, at the verge of the mouth, two appendages.

This is not unfrequent with us, but it is much more common in many other of the northern parts of Europe: all the Ichthyologiſts have deſcribed it. Swenkfeldt calls it Lampetra minima cœnoſa. Willughby, Lampetra cæca oculis carens argentinæ Ein Blinder Neunogen, id eſt, Enneophthalmos cæcus; and Ray calls it Lampetra cæca ſeu oculis carens.

ACCIPENSER.

THERE is only one foramen or aperture for the gills on each ſide in the Accipenſer: the mouth is ſituated on the under part of the head, and has the appearance of a tube; there are no teeth in it: the body is of an oblong form, and the number of fins is ſeven.

Accipenſer corpore tuberculis ſpinoſis aſpero. The Sturgeon.
The Accipenſer, with the body armed with rough tubercles.

This is a very large fiſh; it grows to fourteen, ſixteen, or eighteen feet in length, though the greater number are caught much ſmaller: the head is large, oblong, and acute at the roſtrum; on the extremity of the under jaw there are four cirri or beards: the eyes are large, and ſtand at a great diſtance from the extremity of the roſtrum: their iris is of a ſilvery white; the pupil is of a greeniſh black; the noſtrils have each a double aperture: the head is of a ſomewhat angulated figure: the ſkin is rough; the belly is flat and ſmooth, but on the upper ſurface there are five ſeries of ſpinoſe tubercles, one on the middle of the back, and two others on each ſide of that: theſe conſiſt of different numbers of tubercles, and there are, beſide theſe, two tubercles on the

the hinder part of the body; on it's under ſurface they are ſituated behind the anus: the pectoral fins have a very ſtrong bone at their anterior part: the ventral fins are ſituated low, and near the anus; the pinna ani is ſituated in the midway between the anus and the beginning of the tail: there is only one fin on the back; the tail is bifid, and it's upper ſegment is longer than the under: the appendages to the pylorus are numerous; the air-bladder is ſimple; the inteſtines have only one volution, and the ſpina dorſi is continuous.

It is caught in the Adriatic, and in ſome other ſeas, and in moſt of the large rivers in Europe and Aſia; we ſometimes take it in the Thames, but it is not ſo frequent there as in many other larger rivers in Europe: all the Ichthyological writers have deſcribed it. Athenæus calls it Ὄνισκος and Ἀκκιπήσιος; Plautus, Cicero, Martial, and Pliny, and moſt of the old Latin writers, Accipenſer; Geſner, Accipenſer, Aquipenſer, and Sturio; and Aldrovand, Jonſton, Willughby, and Ray, Sturio; Salvian, Sturio ſive Silurus; Athenæus, Gallus Rhodius, Iſidore, Sus. The Italians call it Sturione; and we, the Sturgeon.

The Greek writers have mentioned a fiſh under the name Ἐλὸψ and Ὁλὸψ, from whom Ovid, Pliny, and many other of the Latins have mentioned Elops and Helops, as the name of another fiſh; but it is certain, from Pliny, that this was the ſame fiſh, and that Ariſtotle and Ælian call our Sturgeon by this name; though we had loſt the connexion between the name and the fiſh for many ages.

Accipenſer tuberculis carens.
The ſmooth-bodied Accipenſer.

The Huſo, or Iſinglaſs-fiſh.

This is a larger fiſh than the ſturgeon; it grows to twenty-four feet in length, and is thicker, in proportion, than that ſpecies: the head is large; the roſtrum is extreamly long, and there are eight beards or cirri under it: the mouth is very ſmall, in proportion to the ſize of the fiſh, and there are no teeth in it: the eyes are large; their iris is grey, and their pupil of a deep black; the noſtrils have each a double aperture, and are very conſpicuous: the body is ſomewhat depreſſed; the back is leſs elevated than in the former ſpecies, and is rounded; the belly is flat; the whole body is ſmooth; there is no appearance of thoſe tubercles, which are ſo conſpicuous on the common ſturgeon: the back is of a deep black, and the ſides grow paler, till they approach the belly, which is yellow: there is only one fin on the back, and that ſtands very backward toward the tail; there are, beſide this, the two pectoral fins, the two ventral fins, and the pinna ani, all ſupported by cartilages inſtead of bony rays.

This ſpecies is more frequent in the Danube than in any other part of the world, ſo far as is yet known; but even the accounts, given from ſuch as have been caught there, have divided it, as it were, into three ſpecies: it was not unknown to the old Latin writers. Pliny calls it Mario; Geſner, Jonſton, and Charleton, Huſo. Willughby and Ray, Huſo Germanorum; Rondelet, and ſome others, Exos piſcis ſive Ichthyocolla piſcis; other authors, as Jonſton, Rondelet, Willughby, Ray, and the reſt who copy from theſe, have deſcribed it a ſecond time as a diſtinct fiſh, under the nmae of Ichthyocolla; and a third time aunder that of Antacæus and Antacæus Boriſthenis; the Greeks have alſo deſcribed it under this name as, Ἀνταχαίος. Ælian and Strabo both mention it; but the ſole difference, as is evident from their own accounts, between the Huſo and the Antacæus is, that one came from the Danube, and the other from the Boriſthenes. The Ichthyocolla or Iſinglaſs of the ſhops, famous as an agglutinant, and uſed alſo in the fining of wines, is the produce of this fiſh: it is made by boiling down the membranaceous parts of it to a jelly.

SQUALUS.

THE foramina of the gills are five on a ſide, and are ſituated in a longitudinal direction from the ſides of the head down to the pectoral fins: the head is of a depreſſed form; the body is oblong, and is rounded or angulated, and the ſkin is rough: the eyes ſtand not on the top, but at the ſides of the head; the tail is bifid, and the upper part of it is longer than the under: the mouth is uſually tranſverſe, and in the under part of the roſtrum, not at it's extremity.

The ſpecies of this genus are numerous, and may be conveniently arranged under ſeveral diviſions.

SQUALI.

Diviſion the Firſt.

Thoſe which have granulous teeth.

Squalus roſtro longo, cuſpidato, oſſeo, plano, utrinque dentato.
The Squalus, with the roſtrum very long, flat, and dentated on both ſides.

The Saw-fiſh.

THIS is one of the moſt ſingular of the whole fiſh-kind: it grows to a very conſiderable ſize, often, including the ſaw or roſtrum, to twelve or more feet, and it is very thick, in proportion. The head is large, and terminates in this ſingular prominence, which is three or four feet, or more, in length, and is of a bony ſtructure, flat, of a browniſh colour, and furniſhed all along, on both ſides, with very long, robuſt, and ſharp teeth, or denticulations: the mouth is placed in the under part of the head, and is moderately large, and not round, but tranſverſe and wide: the teeth are large, but not long; the apertures of the gills are five long ſlits on each ſide toward the head; the body is of a rounded figure, and the ſkin is very firm, hard, and rough: the tail is divided into two parts, and the upper diviſion is much longer than the other.

This ſingular fiſh was well known to the antients. Ariſtotle call it Πρίστης; Athenæus and Oppian alſo give it the ſame name; Ælian calls it Πρήστες; Pliny and moſt of the old Latin writers, as well as moſt of the moderns, call it Priſtis; Charleton, Priſtis, Serra; and Cluſius, Rondelet, and others, Priſtis ſive Serra piſcis; ſome, ſimply, Serra; and others, Serra marina. We call it the Saw-fiſh.

Squalus lævis dentibus obtuſis.
The ſmooth-ſkinned Squalus, with obtuſe teeth.

The ſmooth Hound-fiſh.

This is a large fiſh, though much inferior to the former in ſize: the head is moderately thick, and of a depreſſed form; the roſtrum is obtuſe; the mouth is large, and the teeth are numerous, but they are ſhort, thick, obtuſe, and granulous: the noſtrils are very conſpicuous, and have each two apertures; the eyes are large, and ſtand pretty high on the head, but not on it's top, but at the ſides; the body is oblong, and of a rounded form; the ſkin is ſmooth: toward the head there are five apertures to the gills on each ſide; they ſtand in a line running from the head to the pectoral fins; there are two back fins; the pinna ani is but one: the tail is forked or divided into two parts, and the upper portion is much longer than the other.

We have this ſpecies in our own ſeas, but it is more frequent in thoſe of Denmark and Norway: the Greeks were well acquainted with it. Ariſtotle, Athenæus, and Oppian call it Γαλεὸς λεῖος; Bellonius, Rondelet, Geſner, and Charleton, Galeus lævis; Aldrovand, Galei lævis ſpecies ex Geſnero; Salvian and Jonſton, Muſtelus lævis; and Willughby and Ray, Muſtelus lævis primus; and we, the ſmooth or unprickly Hound. And, beſide theſe, we have a whole ſeries of other names for it, under it's occaſional varieties. Ariſtotle, under it's ſtellated form, calls it Ἀστερίας; Oppian and Athenæus, Γαλεὸς ἀστερίας; Bellonius and Geſner, Galeus Aſterias; and Rondelet, Aldrovand, and Willughby, Galeus ſtellatus; Salvian, Muſtelus ſtellaris ſive varius; and Jonſton, Muſtelus Aſterias.

SQUALI.

Division the Second.

Those which have acute teeth, and prickles on the back.

Squalus pinna ani nulla, ambitu corporis subrotundo. The
The Squalus, with a rounded body, and with no pinna ani. Hound-fish.

THE head is large; it is of a depressed figure and subacute, and the rostrum, toward the extremity, is pellucid: the body is of an oblong form and rounded, or from the pectoral fins to the anus a little compressed, and from thence to the tail somewhat depressed, but neither in any considerable degree: the nostrils are situated at the middle between the eyes and the extremity of the rostrum, but they are not on the top or sides, but toward the under part of the head; each has a double aperture, and a mucous matter may at all times be expressed from them: the eyes are of an oblong figure; they are placed on the sides of the head; the iris is very large and white; the pupil is extreamly small, black, and transverse: on each side of the head, behind the eyes, there is a semi-lunar hole; the convex part of these apertures is toward the eyes: the mouth is a transverse cut, and is situated on the lower part of the head, and at a greater distance from the rostrum than the eyes are: it is large, and of a somewhat lunated figure; there are in it three rows of sharp teeth, affixed to a kind of common bone.

The apertures of the gills are five on each side, reaching from the head to the pectoral fins: they are placed a little obliquely, and, beside the two apertures over the eyes, there are also two other very small ones between them: the lateral line is straight, and runs much nearer to the back than to the belly: the whole body and the fins also are rough; this is most plainly perceived on drawing the hand upwards, from any part of the body of the fish toward the head: the back and upper part of the sides are of a greyish-blue colour; the lower parts of the sides and the belly are white, and there are on the back about eight or nine roundish white spots, placed at a distance from one another: the pectoral fins are large, and are placed horizontally, and are broader at the extremity than at the origin: they are thin, but tough, and have no cartilaginous rays: the ventral fins are distinctly two; they are also placed horizontally, one on each side toward the anus: each of these terminates on it's inner side in an oblong body, complicated at the extremity, and terminating in two spines, the one straight, and the other formed into a kind of hook; the anus is situated in the middle between these, and in the males the penis usually also is found hanging out: there are two back fins; the first of these stands nearer to the pectoral than the ventral fins, and is perpendicularly erected, and has a spine adjoined to it's anterior part: the hinder one stands at about an equal distance from the anus and the tail; it is smaller than the other, but has a larger spine in it's anterior part: these spines in colour, texture, and substance, resemble the claws of birds, and they both turn somewhat backwards: the tail is large, and of a compressed form; it is divided into two parts, and the upper portion is more than twice as long as the other, and is erected in a perpendicular direction.

This fish grows to about two yards in length, though it is more usually caught of four or five feet; when it is skinned, the body has the appearance of that of an eel: there is a redness at each of the muscles externally, but the flesh within is perfectly white, and instead of bones it is supported by hard cartilages.

It is frequent in the Mediterranean, and is often caught also in our seas, and elsewhere: the antients were well acquainted with it. Aristotle, Athenæus, and Oppian call it Ἀκανθίας γαλεὸς; Rondelet, Gesner, and Charleton, Galeus Acanthias; Aldrovand, Willughby, and Ray, Galeus Acanthias sive Spinax; Gaza, Bellonius, Salvian, and Gesner, Mustelus Spinax; Scaliger, Mustelus Spinus; Schoneveldt, Canis Acanthias. The Germans call it Dornhundt; the Venetians, Azio; the Italians, Scazone; and we call it the Hound-fish, or the prickled or pickled Dog.

Squalus

Squalus pinna ani carens, naribus in extremo roſtro.
The Squalus, with no pinna ani, and with the noſtrils at the extremity of the roſtrum.

The Sagree.

This grows to about five feet in length: the head is large, and of a depreſſed form; the roſtrum is ſubacute, and the noſtrils are ſituated almoſt at it's extremity, each having two apertures: the eyes are large, and the mouth ſtands tranſverſely on the under part of the roſtrum: the body is of an oblong and ſomewhat depreſſed form; the back is almoſt flat, and is leſs rough than the reſt of the body: the ſides are prominent, and the belly is ſomewhat flatted, and it's ſkin is extreamly rough: the general colour of the fiſh is brown, but the belly, inſtead of being paler, is of a deeper colour than any other part: there are two back fins, and each has a ſpine at it's anterior part; there are two belly fins moderately large, but there is no pinna ani: the tail is large, compreſſed, and divided into two parts, of which the upper is the longer.

This is very frequent in the Mediterranean, and is caught in different parts of the Ocean alſo, but more rarely. Willughby and Ray call it Galeus acanthias ſive ſpinax fuſcus, the brown, prickly Hound-fiſh.

Squalus pinna ani carens, ambitu corporis triangulato.
The triangulated-bodied Squalus, with no pinna ani.

The Centrine.

This is a large ſpecies: the head is large, and of a depreſſed figure; the roſtrum is obtuſe; the noſtrils have each a double aperture, and are ſituated low; the eyes are large, and their iris is of a greyiſh-white; the pupil is ſmall, oblong, and blackiſh; the mouth is a tranſverſe fiſſure on the under part of the head, not at the extremity of it. There are in the upper part three rows of ſharp teeth, but in the lower part there is only one row: the body is oblong, thick, and of a ſomewhat triangulated form; the apertures of the gills are five on each ſide, running obliquely, and placed in a line from the head to the pectoral fins: there are two fins on the back, and the prickle or ſpine at the anterior one is turned ſomewhat forward: the ventral fins are moderately large, and there is no pinna ani: the tail is divided into two parts, and of theſe the upper is much the longer.

This ſpecies is frequent in the Mediterranean, and in ſome other ſeas: it was well known to the antients. Ælian, Athenæus, and Oppian call it Κεντρίνη; Rondelet, Salvian, Geſner, and Aldrovand, Centrina; Jonſton, Willughby, and Ray, Centrine; Geſner, Galeus Centrina; Bellonius and Geſner, in ſome others parts of his works, Vulpecula. The Italians call it Centrine and Peſce Porco.

Squalus pinna ani carens, ore in apice capitis.
The Squalus, with the mouth at the extremity of the head.

The Monk-fiſh, or Angel-fiſh.

This grows to about ſix feet in length, and is conſiderably thick, in proportion; and, though it has all the other external characters of the Squali, differs greatly from them in the ſituation of the mouth, which is not, as in them, ſituated on the under part of the head, but at the extremity, as in the generality of other fiſhes: the noſtrils are conſpicuous, and have each a double aperture; the eyes are moderately large, and the apertures of the gills are five on each ſide, ſituated between the back part of the head and the pectoral fins: there are three rows of teeth in the upper part of the mouth, and as many in the under; the whole number amounts to a hundred and eight about the region of the eyes, as alſo near the noſtrils there are ſeveral ſpinoſe tubercles, and on the extream verge of the pectoral fins there are alſo ſome ſhort ſpines, and ſome others on the ventral fins; and on the middle of the back there are two back fins, but they ſtand extreamly backward, both behind the anus: the pectoral fins are moderately large; the belly fins are alſo large and broad, they are placed contiguous to one another, and in an horizontal direction: the tail is forked, and the upper portion is longer than the under.

This ſpecies is caught in our own ſeas, but more frequently in the Mediterranean: the antients were well acquainted with it. The Greeks call it Ῥίνη; Pliny, and the

older Latin authors, Rhina ſive Squatus; Iſidore, Squatus; and almoſt all the modern authors, ſimply, Squatina; Willughby and Ray call it Squatina Græcis Rhina; Geſner, Squatina ſive Angelus marinus; Albertus and Cuba, Squamis. The Genoeſe call it Peſce Angelo; and we, the Monk-fiſh, and in ſome places the Angel-fiſh.

SQUALI.

Diviſion the Third.

Thoſe which have acute teeth, and have no ſpines or prickles on the back.

Squalus capite latiſſimo, tranſverſo, mallei inſtar.
The Squalus, with a very broad, tranſverſe hammer-like head.

The Zygæna, or Ballance-fiſh.

THIS is one of the moſt extraordinary fiſh in the world in it's form: the general ſize is five or ſix feet, but it grows to be much larger: the head is of the moſt extraordinary figure of that of any fiſh; it is not oblong, and running in a line with the body, as in the generality of fiſh, but is placed tranſverſely, and has the appearance of the head of a hammer faſtened to it's handle: the eyes are large, and placed at the two extremities; the mouth is a tranſverſe cut on the lower part of the head, and is furniſhed with three or four rows of ſharp teeth: the noſtrils are ſmall, and not very conſpicuous, and the foramina at the eyes are oblong and large; the body is oblong, and is moderately thick; there are two back fins, and a pinna ani, which many of the preceding ſpecies have not: the apertures of the gills are ten oblong ſlits, five on each ſide, running from juſt below the head toward the roots of the pectoral fins: the tail is divided into two parts, and the upper of theſe is much longer than the under.

This ſpecies is ſometimes caught in the Mediterranean, and ſometimes in different parts of the Ocean. It is too ſingular in it's figure, to have eſcaped the notice of the naturaliſts of any period. Ariſtotle calls it Ζυγαίνα; Ælian and Oppian, Ζυγάνια; the Latin writers, as well antient as modern, have taken Ariſtotle's name, and called it Zygæna; Ambroſius calls it Zigena; and Gaza and Salvian, Libella. The Italians call it Ciambetta; and we, the Ballance-fiſh, and the Hammer-headed Shark.

Squalus cauda longiore quam ipſum corpus.
The Squalus, with the tail longer than the body.

The Sea-Fox.

This has obtained it's common names of Vulpecula and the Sea-fox, from the extraordinary length of it's tail: it is a large fiſh, it's weight often more than a hundred pounds; it's head is large, and of a ſomewhat depreſſed form, and acute; the mouth is ſmall, and is ſituated on the under part of the head, but at a ſmall diſtance only from the roſtrum: the eyes are moderately large, and the noſtrils are ſufficiently conſpicuous: the body is thick, ſhort, and rounded; the back is of a duſky greyiſh colour, with an admixture of bluiſh and of brown; the belly is white; the apertures of the gills are five on each ſide, and reach in a ſeries from the back part of the head, nearly to the root of the pectoral fins: the tail is of a very ſingular figure; it is falcated, and, as it were, of the ſhape of a ſword-blade, only not ſtraight: it is immoderately long and narrow, in proportion.

This ſpecies is not unfrequent in the Mediterranean, but there has been no inſtance of it's being caught in the Ocean: the antients were very well acquainted with it. Ariſtotle and Oppian call it Ἀλώπηξ; Athenæus, Ἀλωπήκιας; and Ælian, Θαλάττια ἀλώπηξ; Pliny, Geſner, Willughby, and Ray call it Vulpes marina; Geſner, Vulpes galeus; Rondelet, ſimply, Vulpes; Salvian calls it Vulpecula; Aldrovand, Jonſton, and Charleton, Vulpecula marina; Bellonius, Simia marina. We call it the Sea-fox, and the Sea-ape.

Squalus naribus ori vicinis, foraminibus exiguis ad oculos.
The Squalus, with the noſtrils near the mouth, and ſmall holes near the eyes. **The Tope.**

This grows to five feet in length, and it's weight is uſually about a hundred pounds: the head is large, and of a depreſſed figure; the extremity of the roſtrum is pellucid: the mouth is large, and of a ſemicircular figure, and is ſituated on the under part of the head: the noſtrils are conſpicuous; they are placed near the mouth, and have each a double aperture; there are three rows of ſharp teeth in the upper, and as many in the under, part of the mouth: the body is of a rounded figure, and the lateral line runs very conſpicuous from the head to the tail: there are two fins on the back; the firſt of them is nearer to the pectoral than to the ventral fins; the hinder one is placed a great deal more backwards: the apertures of the gills are five on each ſide, and run from the head nearly to the pectoral fins.

This is frequent in many parts of the Ocean, and in the Mediterranean: the antients were very well acquainted with it. Ariſtotle calls it Γαλεὸς κύων; Pliny, Canicula; Rondelet, Galeus canis; Geſner, Galeus canis vel Canicula Plinii; Salvian, Willughby, and Ray, Canis Galeus; Aldrovand and Jonſton, Canis Galeus vulgaris. The Italians call it Lamiola and Canoſa; and we, in Cornwall, the Tope.

SQUALI.

Diviſion the Fourth.

Thoſe which have the roſtrum ſhorter.

Squalus ex ruſo varius, pinna ani medio inter anum et caudam.
The browniſh, variegated Squalus, with the pinna ani in the middle between the anus and tail. **The Bounce.**

THIS is one of the ſmaller Squali; it rarely grows to more than three feet in length, and is but moderately thick, in proportion: the head is large, and of a depreſſed figure; the roſtrum is obtuſe, and the mouth is ſituated on the under part of the head, but at a ſmall diſtance from the extremity of the roſtrum: the teeth are numerous and ſharp, and they bend a little inward: the noſtrils are remarkably large and conſpicuous: the body is of a ſomewhat depreſſed form; the back is broad, and the belly is ſomewhat flatted: there are two fins on the back, and they ſtand but at a ſmall diſtance from one another; they both are placed on the hinder part of the back; the pectoral fins are large, and of a triangular figure; they have their origin about the third aperture of the branchiæ.

This ſpecies is frequent in the Mediterranean, and is alſo caught in our ſeas: the antients were very well acquainted with it. Ariſtotle calls it Σκύλιον; and Athenæus and Oppian, Σκύμνος; Rondelet and Geſner call it Canicula Ariſtotelis; Salvian, Aldrovand, and Jonſton, Catulus major; Willughby, Catulus major vulgaris; and Ray, Catulus major vulgaris et Salviani. The Italians call it Scorzone; the Venetians, Peſce Gatto; and our common people in Cornwal, a Bounce.

Squalus dorſo vario, pinnis ventralibus concretis.
The Squalus, with a variegated back, and with the belly fins concreted. **The Wolgag.**

The head is large, and of a depreſſed form; the eyes are large, and ſtand pretty high on the ſides of the head: the noſtrils are very conſpicuous; they have each a double aperture, and are ſituated not very far from the extremity of the roſtrum; the mouth is not at the extremity of the roſtrum, but on the under part of it, and opens tranſverſely: the body is long, rounded, and ſlenderer than in moſt of the other ſpecies: the apertures of the gills are five oblique or nearly tranſverſe openings on each

ſide below the head, and reaching to the pectoral fins; the teeth are numerous and ſharp: the lower or under part of the roſtrum has a multitude of foramina in it: the belly of this ſpecies is of a fine ſilvery white; the back is of a duſky greeniſh-black: the pectoral fins are ſomewhat broad; the back fins ſtand very low; the tail is divided into two portions, and the upper is much longer than the under.

We have this in abundance in our own ſeas, eſpecially on the weſtern coaſts; it is frequent alſo in the Mediterranean. Sálvian calls it, ſimply, Catulus; Aldrovand and Willughby, Catulus minor; Ray, Catulus minor vulgaris; Bellonius, Muſtelus ſtellaris tertius. The Venetians confound it with the former ſpecies, under the name of Peſce Gatto; and we, in Cornwall, call it the rough Hound, or Morgay.

Squalus cinereus pinnulis ventralibus diſcretis.
The grey Squalus, with the belly fins ſeparate.

This grows to five or ſix feet in length, and is conſiderably thick, in proportion: the head is large, and of a ſomewhat depreſſed form; the roſtrum is ſubacute; the mouth is large, and is not at the extremity of the roſtrum, but is a tranſverſe opening underneath it; the under part of the roſtrum is full of numerous foramina: the noſtrils are conſpicuous, and ſtand at a conſiderable diſtance from the extremity of the roſtrum; the eyes are large, and ſtand high: the back is of a duſky colour, variegated with a few large ſpots; the ſides are paler, and have alſo a few ſpots on them; the belly is white: the pectoral fins are oblong, and approach to a triangular figure; the pinna ani is much nearer to the anus than to the tail; the back fins ſtand very low: the tail is divided into two parts, and the upper one is much the larger: the belly fins are moderately large, and they ſtand ſeparate, and are not united as in the preceding ſpecies.

This is frequent in the Mediterranean, but we do not meet with it in our ſeas. Rondelet, Geſner, and Willughby call it Canicula ſaxatilis; Ray, Catulus maximus; Bellonius and Geſner, Muſtelus ſtellaris primus.

Squalus foſſula triangulari in extremo dorſo, foraminibus nullis ad oculos.
The Squalus, with a triangular foſſula on the back, and no foramina at the eyes.

The blue Shark.

This is one of the moſt known and moſt terrible of the Squali: it grows to ſix, ſeven, or eight feet in length, and is conſiderably thick, in proportion: the head is oblong and large; the roſtrum is long, and of a depreſſed form, and has a number of foramina both on the upper and under parts: the mouth is large, and ſtands not at the extremity of the roſtrum, but on it's under part opening tranſverſely: the teeth are not very numerous, but they are large, broad, and ſome of them ſerrated at the edges; the eyes are large, and the noſtrils are very conſpicuous, and ſtand low: the ſkin of this ſpecies is leſs ſcabrous or rough than that of moſt of the other Squali: the back is of a deep blue colour; the ſides are of a paler greyiſh-blue, and the belly is of a ſilvery white: the pectoral fins are very long and acute: there are two fins on the back; the anterior ſtands about the middle, and the other near the beginning of the tail; the pinna ani ſtands low, and over-againſt the hinder fin of the back: the tail is large, and is divided into two parts, of which the upper is much the larger.

This ſpecies is frequent in the Ocean, but is rarely met with in the Mediterranean; we have it ſometimes about our own coaſts, but it is much more common in many other places: the antients were very well acquainted with it. Ælian calls it Γλαυκος; Rondelet, Geſner, Aldrovand, Willughby, and Ray, Galeus Glaucus; Charleton, ſimply, Glaucus. We diſtinguiſh it by the name of the blue Shark, from the colour of it's back.

Squalus dorſo plano, dentibus plurimis ad latera ſerratis.
The flat-backed Squalus, with numerous teeth ſerrated at their edges.

The White Shark.

This is a very large and very terrible fiſh, it is the largeſt of all the ſpecies; it's weight, when full grown, being not leſs than a thouſand pounds: the head is large, and

and ſomewhat depreſſed; the roſtrum is oblong: the eyes are large; the noſtrils are very conſpicuous: the mouth is enormouſly wide, and the teeth are very numerous and terrible; there are from four to ſix rows of them, and they are broad and triangular, and many of them ſerrated in the upper jaw; thoſe in the lower are more rounded and ſmooth, or but a few of them are ſerrated, in proportion to the number of the others: the fiſh is very thick, in proportion to it's length; and the back is very broad, and, as it were, flatted: the pectoral fins are large; the firſt of the two dorſal fins ſtands near the middle of the back, the hinder one toward the origin of the tail: the tail itſelf is large and compreſſed, and is divided into two parts, of which the upper is the larger: the general colour of the fiſh is whitiſh; the ſkin is very rough to the touch: the fiſh is very bold and voracious, purſuing and ſwallowing almoſt any thing ſmaller than itſelf.

It is a native both of the Mediterranean and the Ocean, and in ſome places is vaſtly frequent: the antients were very well acquainted with it. Ariſtotle calls it Λάμια; Oppian, Λάμνη; Athenæus, Καρχάριος; and Ælian, Κύων θαλάττια; Pliny, Gaza, Rondelet, and Geſner call it, Lamia; Willughby and Ray, Canis Carcharius ſive Lamia; Aldrovand and Charleton, Canis Carcharius; Ray calls it alſo Tiburonus recentiorum; and ſome others, Tiburo and Tiburone; ſome call it Piſcis Jonæ. The Swedes call it Has; and we, the white Shark.

R A I A.

THE apertures of the gills in the Raia are five on each ſide, and they are ſituated on the breaſt at a little diſtance below the mouth: the head is depreſſed, and the whole body alſo is very depreſſed or flat: the ſides are terminated by broad fins, which ſupply the place of the pectoral fins in other fiſhes: the eyes ſtand in the upper part of the head, and the mouth, in moſt of the ſpecies, in the lower; and, behind each of the eyes, there is a ſingle foramen. The tail, in this genus, is uſually long and ſlender.

Raia oblonga unico tantum aculeorum ordine in medio dorſo.
The oblong Raia, with only a ſingle row of prickles in the middle of the back.

This is a moderately large ſpecies; it grows to about the weight of twelve pounds, and is very broad and thin, in proportion to it's length: the roſtrum is oblong and acute, and the mouth ſituated on the under part of it: the body is depreſſed and flat; the back is of a deep duſky brown: the belly is white, with a tinge of reddiſh; the ſkin of the whole fiſh is very rough, and there is a ſingle row of ſpines running all down the back; there are alſo two ſimple ſpines placed juſt at the foramina or holes which are behind the eyes: the eyes themſelves are large, and their iris is yellow: the noſtrils are large and oblong; there runs all round the ſides of the fiſh a kind of fimbria, which ſeems a commiſſure of the upper and lower parts.

This ſpecies is frequent in the Mediterranean; it is met with in other ſeas, but more rarely: the antients were well acquainted with it. Ariſtotle calls it Ῥινόβατος; Gaza, Aldrovand, Charleton, and Jonſton, Squatino-Raia; Bellonius, Salvian, and Geſner, Squatino-Raia ſive Rhinobatos; Paulus Jovius, Rhinobatus ſive Squali Raia; and Rondelet, ſimply, Rhinobatos.

Raia aculeata dentibus tuberculoſis, cartilagine tranſverſa in ventre.
The prickly Raia, with tuberculoſe teeth, and a tranſverſe cartilage in the belly.

The Thornback.

The head and the whole body are very flat and depreſſed: the figure of the body, excluſively of the tail, is nearly ſquare; the tail is long and ſlender, but it is alſo a little depreſſed or flatted: the belly or lower part is altogether plane; the back is, in general, plane, but it riſes a little in the middle into a convexity: the eyes ſtand on the upper part of the body, at a very conſiderable diſtance from the roſtrum; they are ſomewhat

ſomewhat protuberant, and are covered with a ſimple and naked ſkin: the pupil and iris are not turned upwards, but directly to one ſide, ſo that they are formed for looking horizontally: the pupil is of a greeniſh-black, and the iris of a ſilvery white; there is, in the upper part of the pupil, a whitiſh operculum, and about the edge there is an elegant fringe under the cornea; this, by preſſing of the finger, may be forced upward and downward, till it hide the whole pupil: the cryſtalline humour in the eyes of this fiſh is round, pellucid, and is hard before boiling. Immediately behind each eye there is a ſingle, oblong foramen; this runs tranſverſely, and it's anterior ſide is ſtriated, and ſerves as a valve to cloſe up almoſt the whole aperture; but the hinder part of the aperture is ſmooth within: theſe foramina have each a double duct; they are opened in the anterior part directly into the mouth by a large foramen, and in the hinder part they have another which runs to the gills: the uſe of theſe apertures is the ſame with that of thoſe of the gills, to take in and let out water, and to aſſiſt in keeping the gills in motion, and promoting thus the circulation of the blood: the noſtrils are very conſpicuous; they are ſituated on the under part of the head, a little before the opening of the mouth, and have each only a ſingle aperture, but that very large; theſe communicate with the mouth, and have their aperture within, covered by a fine thin membrane; they are quite open before, except that on the outer ſide there is a little valve: theſe noſtrils have a long and large cavity within, and it's bottom is ſtriated or perforated with oblong and narrow holes, through which a mucous matter is forced.

The mouth is ſituated on the under ſide of the body, and ſtands in a tranſverſe direction: it is very large, and ſtands at the ſame diſtance from the extremitiy of the roſtrum that the eyes do. It is very well furniſhed, in both jaws, with a kind of granulous and rhomboidal tubercles by way of teeth: the palate is ſmooth, and the tongue alſo is ſhort, broad, and ſmooth.

The foramina or apertures of the gills are very ſmall; there are five of them on each ſide; they ſtand a great way below the mouth, at the ſides of the breaſt, in a ſtraight line, and the loweſt of theſe comes into immediate contact with the tranſverſe cartilage of the breaſt; theſe apertures are not round but oblong, and they run tranſverſely: the back, or upper part of the fiſh, is of a duſky brown, with a ſmall admixture of a greyiſh tinge, and is elegantly variegated with large, white, roundiſh ſpots, placed in no regular direction: the belly is white; the back is alſo ſometimes white, and is ſpotted with brown or with black, but that is not the uſual ſtate of the fiſh: the back is all over beſet with innumerable ſmall ſpines, the points of which turn backwards; the belly is ſmooth.

The ſides of the fiſh terminate each in a broad fin: theſe are very large, and ſtand in the place of the pectoral fins in other fiſhes; the extremity of each of theſe lateral fins is terminated in an acute angle: the cartilaginous rays of theſe fins are numerous, and are eaſily diſtinguiſhed in the entire fiſh, but much more beautifully when the ſkin is peeled off, in which caſe they are found to be elegantly variegated with tranſverſe knots: the ventral fins ſtand one on each ſide near the anus, or at the beginning of the tail; they are placed horizontally, in the manner of the pectoral fins, and their ſhape is very ſingular: in the open part, where they come near the lateral fins, each terminates in a large cartilaginous apophyſis, and at the other end, or at the beginning of the tail, they have two other apophyſes, but theſe laſt have no cartilages: the interior part of both theſe fins is joined by a thin membrane to the tail.

The tail is longer than the whole body; it is ſlender, but not rounded in figure, but depreſſed, and the lower ſide of it is plane or flat: there are two little fins on the upper ſide of the tail, near it's extremity, between which there are alſo uſually two little ſpines; at the extremity of the roſtrum there are alſo, both on the upper and under ſides, two ſpines, but theſe are not found diſtinct in the young fiſh, nor are they very conſpicuous at any time in the females.

There runs one row of large ſpines ſometimes from the beginning of the back, but ſometimes only from it's middle to the extremity of the tail; the ſpines on this ſeries are about thirty, and they run in a ſtraight line: there are two ſpines of this kind alſo at the anterior part of each of the eyes, and three behind each of them; and in the anterior part of the back alſo there are frequently four large ſpines; when the whole four are there, they ſtand in a ſquare form, but, in the not fully-grown fiſh, the two hinder ones only are viſible: and, finally, on each ſide of the tail alſo there is a ſingle ſeries of ſmaller ſpines, but theſe are often very faintly perceptible in the ſmaller fiſh:

the roſtrum itſelf, in fine, on it's under part, at the ſides, and in the middle, is rough, with innumerable very minute ſpines; all theſe are very like the prickles of the ſtalks of the roſe-buſh in form and direction.

The belly, or under part of the fiſh, is divided, as it were, into two parts, each of a ſemicircular figure; one of theſe is the region of the breaſt, the other of the belly or abdomen, and the edges of theſe two circles are often beſet with ſmall ſpines, but it is not ſo in all the fiſh; between theſe two regions there is placed a tranſverſe cartilage; this divides the breaſt from the belly, and is very conſpicuous externally: the anus ſtands between the ventral fins, a little above the beginning of the tail; it is of an oval figure, and is placed longitudinally: there are two ſmall foramina or apertures immediately at the lower part of the anus; theſe in the males communicate with the veſiculæ ſeminales, and in the females with the ovaries.

The gills are five on each ſide; and their apertures, on the external part of the body, are ſmaller, and communicate with much larger apertures within; theſe are oblong and tranſverſe: the heart of this fiſh is ſmall, and of a flatted figure; it is ſituated in the lower part of the breaſt: the diaphragm is robuſt and ſtrong; the liver is large, and is ſituated in the upper part of the abdomen, and is divided into three lobes: the ſtomach is large and oblong.

This is very frequent about our own coaſts. Rondelet calls it Raia clavata; Bellonius, ſimply, Raia; Geſner, Raia proprie dicta. We, in Engliſh, call it the Thornback and the Maid. Many of the writers on fiſh have figured and deſcribed it alſo a ſecond time, as if another ſpecies, under the names of Raia clavata altera, Raiæ clavatæ ſpecies altera, and Raia clavata altera Rondeletii.

Raia corpore glabro, aculeo longo anterius ſerrato in cauda apterygia.
The ſmooth Raia, with a long ſpine ſerrated before in the tail.

The Paſtinaca marina, or Fire-flaire.

This is a moderately large ſpecies, very broad and thin, and the tail is remarkably long: the head is as flat and depreſſed as the body; the eyes ſtand on the upper ſide of the body, the mouth on the lower; there are two apertures or holes behind the eyes, one to each; the eyes themſelves are large: their iris is of a ſtrong yellow: the pupil is blackiſh; the mouth is large and tranſverſe; the teeth are ſtrong, ſhort, numerous, and granulous; the roſtrum is long, and very acute; the apertures of the gills are five on each ſide, and they are ſituated on the breaſt, beginning a little below the mouth: the ſides are all the way terminated by a broad fin: the whole body is very thin, and the tail is remarkably long, and is rounded; it has no fin on it, but terminates in a fine ſmall point: there is a large ſpine about it's middle; this is ſerrated on the anterior part, and is long, bony, and ſharp at the point: the back of the fiſh is ſomewhat gibboſe, but the belly is flat.

We have this ſpecies in our own and ſome other of the Northern Seas, but it is more frequent in the Mediterranean: the antients were well acquainted with it. Ariſtotle calls it Τράγων; Ælian, Athenæus, and Oppian, Τρόγων; Rondelet and Salvian, Paſtinacha; Geſner and Jonſton, Paſtinacha marina; Aldrovand, Paſtinacha marina altera; Schoneveldt, Paſtinacha marina Oxyrynchos; Bellonius, Paſtinacha marina lævis. The Italians call it Brucho or Bruco; and we the Fire-flaire, Fire-flaw, or Fierce-flaw: it gives a very ſevere and invenomed wound, with the ſerrated ſpine in the tail.

Raia corpore glabro, aculeis ſæpe duobus poſtice ſerratis in cauda apterygia.
The ſmooth-bodied Raia, with two ſpines on the tail, ſerrated behind.

The double ſtinged Fire-flaire.

This is a moderately large ſpecies: the roſtrum is long and acute; the head is depreſſed; the back is ſomewhat gibboſe, and the belly is flat: the eyes are large, and ſomewhat prominent; their iris is yellow, and their pupil black; the mouth is large and tranſverſe; the teeth are numerous, ſhort, and obtuſe; there are two large aper-

tures or holes behind the eyes: the foramina of the gills are ſmall; they are five on each ſide, and run lengthwiſe down the breaſt from the mouth: the lateral fins are very large and broad; the tail is but about half as long as the body, but it is uſually armed with a double ſpine, ſerrated on the hinder part: the points of the aculei, in this ſpecies, turn backwards, and the aculei themſelves have long furrows.

We have this ſpecies alſo ſometimes in our own ſeas, but it is leſs frequent than the other. Columna call it, Paſtinacha marina altera πτερυπλατεία altacula dicta; and Ray has taken the ſame name.

Raia corpore glabro, aculeo longo ſerrato in cauda pinnata.
The ſmooth-bodied Raia, with a long ſerrated ſpine on a finny tail.

The Sea-eagle.

This is a large and a very ſingular ſpecies; the roſtrum is oblong, obtuſe at the extremity, and has ſomewhat of the figure of the head of a toad: the eyes are large, prominent, and ſet at a conſiderable diſtance from one another; their iris is of a pale orange colour, and the pupil of a greeniſh-black: the back of the fiſh is ſomewhat gibboſe, and the whole body is thicker than in many of the other ſpecies: the mouth is large and tranſverſe, and the teeth are numerous; the apertures of the gills are ſmall; they are placed five on each ſide, running down each way of the breaſt from the mouth, and behind the eyes there are alſo two large apertures, one to each eye: the ſide fins are remarkably large; they are pointed at the ſummit, and are eaſily moveable in any direction: the tail is very long and ſlender, and has, at it's origin, two little fins, and it is furniſhed with a long, ſharp, and ſerrated ſpine, of a white colour, and bony ſtructure.

This ſpecies is frequently caught in the Mediterranean, and ſometimes, though rarely, in the Northern Seas: the antients were well acquainted with it. Ariſtotle calls it Ἀετὸς; and Athenæus and Oppian give it the ſame name; Pliny, Jonſton, Salvian, Willughby, and Ray, all call it, ſimply, Aquila; Bellonius and Geſner, Aquila marina; Aldrovand, Aquila prior; and Columna, Paſtinacha marina lævis altera Ὀξυπτερόδης Aquilone dicta. The Italians call it Aquilone; and we, the Eagle-fiſh, or the Sea-eagle.

R A I Æ.

Diviſion the Second.

Thoſe which have oblong and acute teeth.

Raia toto dorſo aculeato, duplici ordine aculeorum in cauda, ſimplicique ad oculos.
The prickly-backed Raia, with two ſeries of prickles on the tail, and one ſeries over each eye.

The White Horſe.

THIS is a ſingular ſpecies: the body is conſiderably broad, in proportion to it's length, but it is alſo thick; the back is ſomewhat gibboſe, but the belly is more flat; the roſtrum is oblong and acute: the eyes are not very large, but they are prominent, and there is an aperture behind each: the mouth is tranſverſe and large, and it is furniſhed with a number of ſharp teeth: the apertures of the gills run down from it on each ſide along the breaſt; they are ſmall, and there are five of them on each ſide: the back is of a greyiſh-yellow colour, with ſome ſpots of black, and is covered all over with ſhort ſpines, ſtanding very cloſe to one another: the belly is white, and has no ſpots; the tail is long and ſlender, and has two rows of ſpines on it, and there is alſo a ſingle ſeries of them on each of the eyes.

This ſpecies is frequent in our own and other of the Northern Seas. Willughby calls it Raia aſpera noſtras; Rondelet, Geſner, Charleton, and others, Raia fullonica; and our common people call it the white Horſe.

Raia

Raia dorſo ventreque glabris, aculeis ad oculos, ternoque eorum ordine in cauda.
The ſmooth Raia, with ſpines about the eyes, and three rows of them at the tail.

The Barracol.

This is a ſmall ſpecies; it rarely grows to more than a foot in length, and the far greater number met with are not more than eight inches; it's breadth is equal to ſomewhat more than half it's length, and it is moderately thick, in proportion: the roſtrum is oblong and acute: the eyes are large and prominent; there are ſome ſpines placed about them, and juſt behind each there is a large aperture: the mouth is large and tranſverſe, and is furniſhed with ſharp teeth; the apertures of the gills are ſmall; they run down the breaſt in two rows, five in each row: the back is of a pale reddiſh colour, and on the middle of it there are two large purple ſpots, black at the edges, and below theſe there are ſeveral white, tranſverſe lines.

This ſpecies is frequent in the Mediterranean, but it is not met with in our ſeas. Rondelet, Geſner, and Aldrovand call it Raia oculata, lævis; Jonſton and Charleton, Raia oculata; Willughby and Ray, Raia lævis oculata; Salvian, Raia ſtellaris; and Bellonius, Miraletus. The Venetians, in whoſe markets it is frequent, call it Barracol; the Italians, Arzilla; and the Maſſilians call it Mirallet.

Raia varia tuberculis decem aculeatis in medio dorſi.
The variegated Raia, with ten prickly tubercles in the middle of the back.

This is a large ſpecies, the weight of a full-grown one is ten or twelve pounds: the roſtrum is very long, and is more acute or ſharp at the point, than in any of the preceding ſpecies; the eyes are large and prominent, and there is a large aperture behind each of them: the mouth is tranſverſe, and the teeth are ſharp; the apertures of the gills are ſmall; they are five on each ſide, and run down in ſtraight lines from the mouth, along the breaſt: the back is ſomewhat prominent; the belly is more flat, and there runs along the middle of the back a ſeries of ten tubercles, which are prickly on the ſummit: there are two thick and fleſhy pinnæ ani, or rather ventral fins, with two thick appendages, beſide what are called the penes; and toward the extremity of the tail there is always one, and ſometimes there are two fins: in the full-grown fiſh there are always certain ſpines alſo at the ſides of the tail, but theſe are ſcarce perceptible, unleſs in ſuch.

This is frequent in the Mediterranean, and has been caught in ſome other ſeas: the antients were well acquainted with it. Ariſtotle and Oppian call it Βοῦς; Athenæus; Βοῦς θαλάττιος; Ovid and Pliny call it Bos; and Paulus Jovius, Bos Bellula. Authors have alſo deſcribed it a ſecond time, as if a different ſpecies. The antients, as well as the moderns, have fallen into this error. Ariſtotle calls it Λειόβατος; Bellonius, Lævis Raia. Among the moderns alſo, many have deſcribed it even a third time, as if a ſtill different fiſh. Aldrovand calls it Bos Bellonii, Oxyrynchus major Rondeletii; Jonſton, Oxyrynchus major; Rondelet, Willughby, and Ray, Raia Oxyrynchos major; and Geſner, Raia Oxyrynchos major quem aliqui Bovem antiquorum eſſe putant. The Italians call it Mucoſa and Bovoſa; and the Maſſilians, Floſſade.

Raia varia, dorſo medio glabro, unico aculeorum ordine in cauda.
The variegated Raia, with the middle of the back ſmooth, and one row of ſpines on the tail.

The Skaite.

This is one of the largeſt of the Raiæ; it grows to more than a yard in length; it's breadth is equal to about three fourths of it's length, and it's thickneſs is ſo conſiderable, that it often weighs a hundred pounds: the back is ſomewhat gibboſe; the belly is more flat; the colour is a pale grey, variegated with irregular ſpots of black: the roſtrum is long and ſubacute; the eyes are large and prominent, there are two apertures, one behind each: the mouth is large and tranſverſe; the apertures of the gills are ſmall, and run in two ſeries, five in each down the breaſt: the lateral fins in the

the male fiſh have a great number of little ſpines on them, both on the upper and under ſides; theſe are not found in the female, and hence Rondelet and ſome others have deſcribed the male Skaite as a diſtinct ſpecies, under the name of the Raia ſpinoſa: the back, as well as the belly, in this ſpecies, is ſmooth, but there runs a ſingle row of ſpines along the tail.

This ſpecies is very frequent in the Northern Seas, and was well known to the antients. Ariſtotle, Ælian, Oppian, and Athenæus call it Βάτις; Cuba, Auctor, and Albertus call it Rayte, Rayche, and Rubus; Rondelet, Geſner, and Aldrovand, Raia undulata ſive cinerea; Geſner, Jonſton, and Charleton, Raia undulata; and Schoneveldt, Raia lævis. We call it the Skaite and the Flaire. Ariſtotle has diſtinguiſhed the ſexes in this ſpecies; he calls the male Skaite, Βάτος; and the female, which has no ſpines on the fins, Βάτις.

Raia tota lævis.
The wholly ſmooth Raia.

The Torpedo, or Cramp-fiſh.

This is a large ſpecies; it is conſiderably broad, in proportion to it's length, and it is very thick: the whole body, head, and tail are all perfectly ſmooth; there is not the leaſt ſign of any ſpine or tubercle for the origin of a ſpine in any part: it has alſo two little fins or pinnules in the middle of the back: by theſe characters it is ſufficiently diſtinguiſhed at ſight from all the other ſpecies of this genus. The roſtrum is oblong and ſubacute; the eyes are large and prominent, and there is an aperture behind each: the mouth is large, tranſverſe, and well furniſhed with teeth: the apertures of the gills are larger than in many of the other ſpecies, though they are not immoderately ſo: the back is ſomewhat gibboſe; the belly is flat, and the ſides are terminated by broad fins, which ſtand in the place of the lateral or pectoral fins of other fiſhes: the colour on the back is a duſky greyiſh, and the belly is white. The ſingular property of this fiſh is, that, when out of the water, it has a power of affecting the hand that touches it, in a very remarkable manner: the ſhock is inſtantaneous, and reſembles that given by electricity, only that the effect laſts longer: the part of the limb affected, which is uſually from the fingers ends up to the elbow, if the hand has touched it, is affected with a ſenſation much like that which we call the cramp: this is all that is in the power of the fiſh, but thoſe who have related it, have raiſed the effects into almoſt miracles. Monſieur de Reaumur has given a long memoir in the Paris Tranſactions, in which he has endeavoured to account for the manner in which the effect is produced: he reſolves it into the inſtantaneous action of a vaſt multitude of ſmall muſcles on the ſurface of the body of the fiſh, which it brings into action in great numbers at once; but there ſeems ſomething more required to the perfectly explaining ſo odd a phænomenon.

The fiſh has been known from the earlieſt times. Ariſtotle, Ælian, Oppian, and Athenæus call it Νάρκη; Cuba, Narkos; the ſame Cuba alſo and ſome others call it Rabas; the greater number of the Latin writers call it, ſimply, Torpedo; Ray calls it, Torpedo Græcis Narce; Willughby, Torpedo Græcis Νάρκη Genuenſibus Batta potta; Geſner, Aldrovand, and Jonſton, Torpedo non maculoſa; and the ſame Geſner, in other places, Torpedo maculoſa and Torpedo maculoſa ſupina, making two other imaginary ſpecies from it's varieties; Aldrovand calls it Torpedo Salviani maculoſa; and Bellonius, Torpedo oculata; Rondelet alſo, as well as ſome others, has deſcribed it under the different circumſtances of growth and variegations in colour, three or four times over, under the names of Torpedo, and Torpedinis ſpecies ſecunda tertia and quarta. It is from theſe accidental variations, and ſome little diſtinction between the male and the female fiſh, that it is not eaſy to give a deſcription of it, that ſhall be accurate in the minute particulars. The Italians call it Occhiatella; and we, the Cramp-fiſh, or the Numb-fiſh.

FISHES.

Claſs the Fifth.

PLAGIURI.

CETACEOUS FISHES.

Thoſe which have the tail placed horizontally, not perpendicularly, as in all the former claſſes.

THESE fiſh reſpire by means of lungs; they are viviparous, and the males have a penis and teſticles, the females a vulva, ovaries, and paps.

PHYSETER.

THE Phyſeter has teeth only in the lower jaw, and they are crooked: on the back there is a fin, or a large and tall ſpine; and the opening or fiſtula for the diſcharge of the water is in the front part of the head.

Phyſeter maxilla ſuperiore longiore, ſpina longa in dorſo.
The Phyſeter, with the upper jaw longeſt, and with a long ſpine on the back.

The crooked-toothed Whale.

This is a very large whale, and it's figure is very ſingular: the head is monſtrouſly big, it is equal in length to the whole body without the tail: the body is very thick, and of a figure approaching to rounded, only the back is elevated; the head, however, is thicker than the body, even in it's thickeſt part: the upper jaw or roſtrum is at leaſt five feet longer than the under, and, even in the under, the roſtrum is continued two feet beyond the extremity of the jaw-bone: the ſhape of the whole head is irregular, and there are ſome large depreſſions on it's upper part: the eyes are remarkably minute in a fiſh of this enormous magnitude; they are ſcarce larger than thoſe of a common whiting: the pipe or fiſtula for the diſcharging water is in the middle, or a little higher than the middle of the roſtrum; it is divided into two paſſages within, but it is covered by one common operculum: there are no teeth in the upper jaw, but in the under there are no leſs than forty-two; they are large, long, of a nearly rounded figure, but ſomewhat compreſſed, and are not ſtraight, but bent in the manner of a ſickle; they are thickeſt and moſt bent in the middle; they terminate at the tops in an acute cone, the point of which turns inward, and, what is more ſingular, they diminiſh in thickneſs alſo toward the bottom, and there terminate in a much ſmaller and ſlenderer root: the tail is large, and placed horizontally, and on the back there is a large and long ſpine, which occupies the place of a fin.

This ſpecies is a native of the Northern Seas, but not of the very remoteſt; we have it ſometimes about our own northern coaſts. The naturaliſts were not acquainted with it till the time of our Sibbald; he has deſcribed it under the name of Balæna major in inferiore maxilla tantum dentata, dentibus arcuatis falciformibus, pinnam ſeu ſpinam in dorſo trahens; Ray has borrowed the ſame name.

Phyſeter pinna dorſi altiſſima, apice dentium plano.
The Phyſeter, with the back fin very tall, and the ſummit of the teeth plane.

The plane-toothed Whale.

This is a larger ſpecies than the former, and ſomewhat reſembles it in it's general form: the head is enormouſly big; it is equal in length to three fourths of the body, and toward the hinder part is thicker than the largeſt part of the body: there are ſeveral oblong and irregular cavities, or depreſſions, before the eyes; the eyes themſelves are ſmall, but not ſo extreamly minute as in the preceding ſpecies: the fiſtula or aperture for diſcharging water is in the middle of the head, and has a ſingle valve, but it is divided into two parts or paſſages within.

There are no teeth in the upper jaw, but in the under there are a conſiderable number; they are long, tall, rounded, and a little bent inwards; they are thicker at the roots than thoſe of the preceding ſpecies, and are leſs bent or falcated, though their extremities turn inwards; theſe alſo are not conic, as in the others, but plane: there are three fins on this fiſh; that on the back is the moſt ſingular; it is large and very tall, ſimple, and erect, and looks like the mizzen-maſt of a ſhip: the tail alſo is very large and broad.

This ſpecies has been thrown on ſhores about the northermoſt part of Scotland; we owe our knowledge of it to the ſame author who deſcribed firſt the other. He calls it Balæna macrocephala tripinnis quæ in mandibula inferiore dentes habet minus inflexos et in planum deſinentes; Ray alſo has continued this name.

DELPHINUS.

THE Delphinus has teeth in both the jaws, the fiſtula, or opening for the diſcharge of water is in the middle of the head, and the back is pinnated or finned.

Delphinus corpore fere coniformi, dorſo lato, roſtro ſubacuto.
The Delphinus, with a coniform body, a broad back, and a ſubacute roſtrum.

The Porpeſs.

This is a very large and not a very beautiful fiſh: the head is large, and the body is very thick toward the head, but it grows gradually ſmaller to the tail; the whole thence has ſomewhat of a conic form: the back is broad, and the diameter in the largeſt part is more than equal to half the length of the fiſh: the roſtrum is protended; the head is not very large; the opening of the mouth is wide, and there are teeth in conſiderable numbers in both jaws; there are about forty-eight in the full-grown fiſh in each jaw, and they are acute and ſomewhat moveable: the fiſtula or aperture for the diſcharge of water is nearly in the middle of the head, and beſide this there are ſix other ſmaller foramina about the roſtrum: the apertures for the ears are ſo ſmall, that they are ſcarce perceptible: the body is, in general, of a rounded figure, but, as it approaches the tail, it becomes a little compreſſed: the tail is large; it is placed horizontally, and is a little divided or forked: the ſtomach is triple: the inteſtines are extreamly long; the kidnies are compoſed of a great number of lobules, and the ribs are thirteen on each ſide.

This ſpecies is not unfrequent in the Northern Seas, and frequently comes a great way up the large rivers; we have it ſometimes in the Thames: the writers of all times have been acquainted with it. Ariſtotle calls it Φώκαινα; Gaza, Tirſio; Pliny, Bellonius, and Rondelet, Turſio; Jonſton, Charleton, Willughby, and Ray, Phocæna; Geſner and Aldrovand, Phocæna ſive Turſio; Geſner, Phocæna ſive Thurſio; and Schoneveldt, Parvus Delphinus vel Delphinus ſeptentrionalium aut orientalium. The Swedes and Danes call it Marſuin; and we, the Porpeſs: this, however, is not ſo determinate a name as it ought to be, for we call the following ſpecies or proper dolphin alſo the Porpeſs.

Delphinus corpore oblongo ſubtereti, roſtro longo acuto.
The Delphinus, with an oblong, ſubcylindric body, and a long, acute roſtrum.

The Dolphin.

This is a conſiderable longer fiſh than the former, but it's body is not thick, in proportion: the head is not immoderately large; the roſtrum is very long and acute; the opening of the mouth is vaſtly wide, reaching on each ſide to the breaſt: both jaws are furniſhed with numerous teeth, and the opening them has a very terrible appearance: there are two longitudinal depreſſions before the eyes, and in the middle of the head ſtands the fiſtula or aperture for the diſcharging water; it is double, or has two paſſages within, but it terminates ſingly: the body is of a rounded figure, and does not diminiſh ſo much in thickneſs toward the tail, as the former ſpecies: the parts of generation in both the ſexes are very viſible, and ſtand at a middle diſtance between the anus and the navel.

This

This ſpecies is frequent in the Northern Seas, and often makes it's way up rivers: it was very well known among the antients. Ariſtotle and Athenæus call it Delphis; Ælian, Δελφὶν; and Oppian, Δελφὶς τὸν; Pliny, and after him moſt of the other Latin writers, call it Delphinus; Aldrovand, Delphinus prior; and Ray, very properly, Delphinus antiquorum. We call it ſometimes the Dolphin, but more uſually the Porpeſs. It is extreamly wrong, however, to confound two fiſh ſo perfectly diſtinct, under the ſame name; and the more ſo, as we have two diſtinct names for them.

Delphinus roſtro ſurſum repando, dentibus latis ſerratis.
The Delphinus, with the roſtrum repandous upwards, and with ſerrated teeth.

The Grampus.

The ſize of this fiſh has made it generally taken for a whale, though it is properly of the ſame genus with the porpeſs and dolphin: the head is large, and ſomewhat depreſſed toward the roſtrum; the lower jaw is larger and more robuſt than the upper: the opening of the mouth is very wide, and both the jaws are armed with ſtrong teeth: the fiſtula or aperture for the diſcharge of water is in the middle of the head; the eyes are large, and the apertures of the ears are very ſmall: the body is very thick, it's diameter is more than equal to half it's length; it's figure is ſomewhat rounded, but the back is broad, and the belly flatted: the tail is large and horizontal.

This is frequent in the Northern Seas, and is apt to play about upon the ſurface of the water, ſo that it is oftener ſeen than any of the others, even in places where they are equally frequent. All the old Latin writers call it Orca, and moſt of the moderns have taken the ſame name; Sibbald and Ray call it Balæna minor utraque maxilla dentata; Paulus Jovius calls it Capidolius; and Marten, Buts kopf. We call it the Grampus; and others the Springer, the North Caper, the Tandthye, and Loper.

BALÆNA.

THERE are in the upper jaw of the Balenæ certain laminæ of a horny matter, which ſupply the place of teeth, but there are none ſuch in the lower jaw: the fiſtula or aperture for the diſcharge of water is double, and is ſituated either on the forehead, in the middle of the head, or in the roſtrum: the back has in general no fin upon it.

The horny laminæ, in the upper jaw of this fiſh, are the ſubſtance which we call whalebone.

Balæna fiſtula in medio capite, dorſo caudam verſus acuminato.
The Balæna, with the fiſtula in the middle of the head, and the back ridged toward the tail.

The Whale.

This is the fiſh determinately and properly called the Whale, the principal object of the Greenland fiſhery, and the firſt known ſpecies. It grows to a monſtrous ſize: the head is extreamly large, and of an irregular figure: the lower jaw is much larger than the upper, and covers it at the ſides; the upper is narrow and oblong: the fiſtula is double, or has two diſtinct apertures, and is ſituated in the middle of the head between the eyes: the eyes are very ſmall, in proportion to the enormous bulk of the head, and are placed at a great diſtance from one another; they are a little higher up in the head than the fiſtula: the whole head is ſomewhat depreſſed, and has ſeveral irregularities on it's ſurface: the body is very thick, and ſomewhat rounded, but toward the extremity of the back there is a ſubacute angle, extending itſelf longitudinally to the tail: the tail is ſomewhat forked, but not deeply ſo; it is very large, and in it's horizontal ſituation makes a very ſingular figure.

This is an inhabitant of the moſt Northern Seas; the Greenland fiſhery has this ſpecies for it's principal object, though it occaſionally takes in any thing that can yield the materials for oil. Ariſtotle calls it Μυσικητὸς, and Pliny juſt mentions it under the name Muſculus; but theſe authors had but very imperfect ideas of it, all they knew being from hearſay and relation. Sibbald, who has entered into the diſtinctions of

of theſe fiſh better than moſt others, calls it Balæna major laminas corneas in ſuperiore maxilla habens, fiſtula donata, bipinnis; Ray, Balæna vulgaris edentula dorſo non pinnato; Rondelet, Balæna vulgo dicta, ſive Muſculus; Geſner, Balæna vulgo dicta, ſive Myſticætus Ariſtotelis et Muſculus Plinii; Aldrovand and Jonſton call it Balæna vulgi; Charleton, Balæna vulgaris; and Bellonius, Charleton, and many others, ſimply, Balæna. Gaza calls it Muſculus piſcis, and Marten and ſome others, Balæna Spitſbergenſis; we, properly and ſimply, the Whale.

Sibbald deſcribes another Balæna agreeing with this ſpecies in all reſpects, except that it has no fiſtule; but this is only owing to an error. There is no Balæna which has not a fiſtule; and this account of Sibbald's is formed from Faber's bad deſcription of the common Greenland whale, for it is evident that he meant no other, though he had but a very imperfect idea of this.

Balæna fiſtula in medio capite, tubero pinniformi in extremo dorſo.

The Balæna, with the fiſtule in the middle of the head, and a pinniform tuberoſity on the back.

The Phyſeter.

This is a very ſingularly-ſhaped fiſh for one of this genus; it is equal in length to the Greenland whale, but it's thickneſs is not one third ſo much: the head is very large, and the lower jaw is larger than the upper; the opening of the mouth is wide, but there are no teeth in it: the upper jaw has, in their place, a quantity of bony laminæ, as in the former ſpecies; and in the lower there is nothing: the head is ſomewhat depreſſed, and has ſeveral irregularities in it's figure, particularly ſome oblong depreſſions in the front, and toward the ſides: the eyes are very ſmall, in proportion, but they are placed at a leſs diſtance than in the former, though in this not at all near one another: the fiſtule is ſimple at it's aperture, but it is double in it's paſſage; it ſtands nearly in the middle of the head, and is larger than in any other ſpecies: the fiſh alſo makes a more violent uſe of it than any other, toſſing the water to an immoderate height, and with vaſt violence from it.

The head in this ſpecies is long, and, in proportion, ſlender; it is round at the ſides, but ſomewhat ridged on the back, eſpecially on it's hinder part, and the belly is flatted: toward the tail there ſtands, on the very ridge of the back, a tuberoſity reſembling a fin: the tail is very large, and a little forked, but it is but very little ſo; the fiſh has a power of moving it with vaſt violence.

This ſpecies was known to the Greeks. Ælian and Oppian call it Φυσαλος; Pliny, and after him moſt of the Latin writers, have called it Phyſeter; Geſner calls it Phyſalis Bellua ſive Phyſeter; and Charleton, Phyſeter, Phyſalus. Our people, on the Greenland fiſhery, call it the Fin-fiſh.

Balæna fiſtula duplici in roſtro, protuberantia corniformi in extremo dorſo.

The Balæna, with a double fiſtule in the roſtrum, and a corniform protuberance on the back.

This is a conſiderably large ſpecies, tho' inferior in ſize to the Greenland whale, and the former: it grows to fifty feet, or more, in length, and the body is conſiderably thick, in proportion: the head is large, and the roſtrum, in compariſon of the others, is acute: the opening of the mouth is large, and the upper jaw is furniſhed with the horny laminæ, in the manner of the Greenland whale: the eyes are ſmall, and they ſtand very diſtant: the fiſtule is double, or has a double aperture, and is placed more forward on the roſtrum than in any of the others: the body is rounded, but the back riſes into a ridge, and has on it's hinder part a protuberance ſhaped like a horn: the belly is wrinkled; the tail is very large, and ſomewhat divided at the middle, but not deeply ſo, and the fiſh has a ſurpriſing force with it.

This ſpecies is ſometimes thrown on ſhore on our northern coaſts, and is alſo met with in the remoteſt Northern Seas. Sibbald has called it Balæna tripinnis nares habens cum roſtro, et plica in ventre; Ray has taken this name; the reſt of the Ichthyologiſts have not known it.

Balæna fiſtula duplici in fronte, maxilla inferiore multo latiore.
The Balæna, with a double fiſtule in the forehead, and with the lower jaw broadeſt.

This is a conſiderably large ſpecies; it has been met with thrown on ſhore on our own coaſts, of ſeventy-eight feet long: the head is remarkably large, and of an irregular figure, having ſeveral depreſſions on it: the opening of the mouth is very wide; the upper jaw is furniſhed with the horny laminæ in conſiderable abundance, in the place of teeth; the lower jaw has none of them: the lower jaw is vaſtly broader than the upper, and ſtands all the way prominent beyond it: the eyes are ſmall, and are ſituated high on the head, at a conſiderable diſtance from one another; the fiſtule is of a pyramidal figure, and is divided into two parts by a ſeptum: the body is thick; the back is elevated; the belly is ſomewhat flatted, and the tail is very large and moveable with a ſurprizing force.

It is a native of the moſt Northern Seas, but it is ſometimes alſo thrown up on our ſhores, eſpecially in the moſt northern parts of Scotland. Sibbald, who had met with it there, calls it Balæna tripinnis maxilla inferiore rotunda et ſuperiore multum latiore; Ray alſo has borrowed the ſame name.

MONODON.

THE Monodon has only one tooth; this is remarkably long, and is fixed in the upper jaw, and runs parallel with the length of the fiſh, ſo that it has more the appearance of a horn than a tooth. There is no fin upon the back, and the fiſtule is in the vertex, or uppermoſt part of the head.

Of this ſingular genus there is but one known ſpecies.

MONODON. The Unicorn-fiſh, or Nar-wal.

This is an extreamly ſingular fiſh; the length of a full-grown one is about five and twenty feet, but from ſixteen to twenty is more common: the body is extreamly thick; it's diameter equals at leaſt half it's length, and it is very unwieldy: the head is ſmall, and is ſhaped like that of a roach or carp: the mouth is very ſmall, and there are no teeth in either jaw, except the ſingular one, called a horn in the upper; this grows from the left ſide of the jaw, and is protended forward. It is fixed in a gomphoſis in the jaw, altogether in the manner of other teeth, whence, and from it's ſtructure, appears the impropriety of calling it a horn. This tooth grows to ten feet, or more, in length; it is about the thickneſs of a man's wriſt toward the baſe, and thence becomes gradually ſmaller all the way to the point: it is a little flatted, where it is let into the jaw; in the other part it is rounded: it is of a bony texture, and of a fine ivory white colour: the ſurface is wreathed in a very elegant, ſpiral manner, and the tooth is hollow almoſt all the way up. The eyes of this ſpecies are very ſmall, and ſtand at a great diſtance from one another; the fiſtule ſtands very high up in the head, and is large; the whole body is covered with a very tough ſkin: the back is greatly elevated; the ſides very prominent and rounded, and the belly ſomewhat flatted: the tail is horizontal and very large, and is a little divided in the middle.

This ſingular fiſh is frequent in the Northern Seas, and ſometimes comes as far towards us as Denmark and Sweden, but rarely; the people employed in the whale fiſhery frequently kill it, and procure oil, &c. from it, as from the common whale. One of theſe people brought the ſkeleton of one to London, about two years ſince, and ſhewed it for money, under the name of an unicorn. I had an opportunity of examining the tooth in this to great advantage, and found it to be abſolutely and entirely ſuch, with no title to the name of a horn at all.

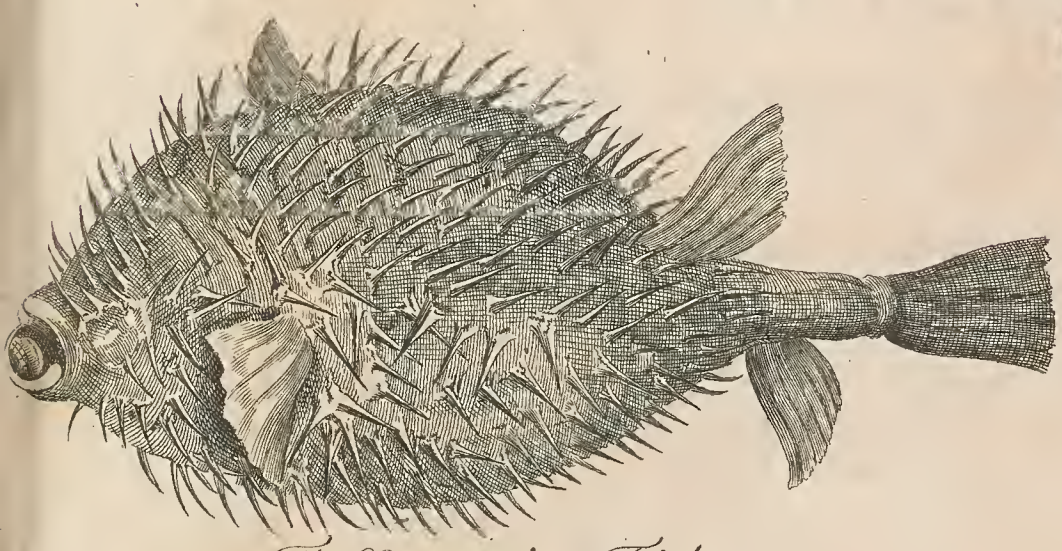
This ſingular fiſh was not known to the antients, nor well, indeed, to any, till ſince the eſtabliſhment of the Greenland whale-fiſhery. Charleton calls it Monoceros, unicornu marinum; Ray, Monoceros piſcis de genere cetaceo; and Willughby, Monoceros piſcis qui de genere cetaceo eſſe fertur. The tooth of this fiſh was known among the collectors of curioſities, long before the fiſh itſelf was ſo. When the creature had been



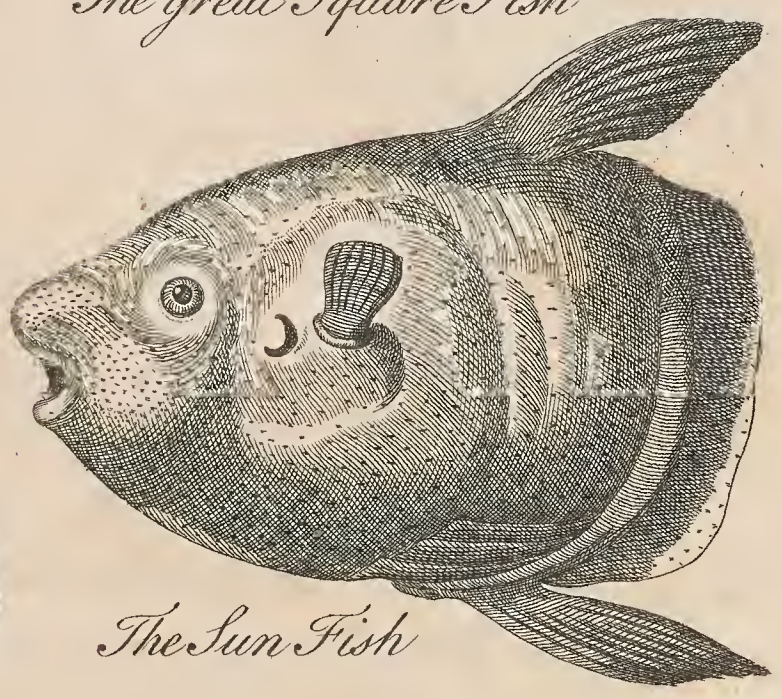
The Broad Guaperva



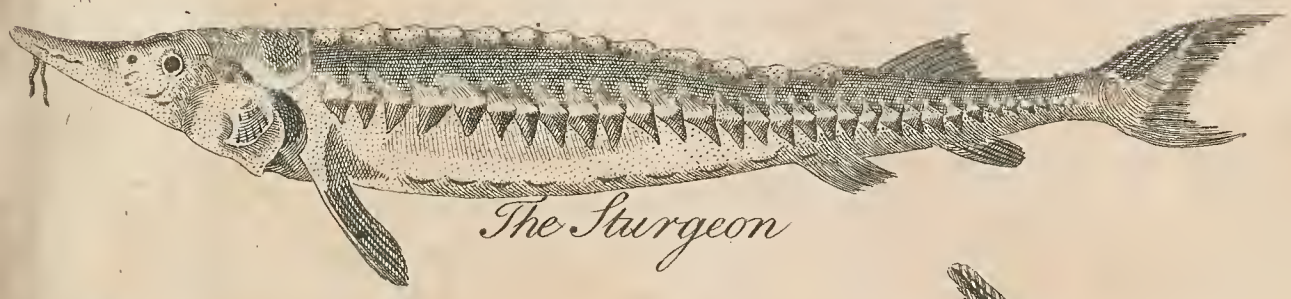
The great Square Fish



The Porcupine Fish



The Sun Fish



The Sturgeon



The Saw Fish



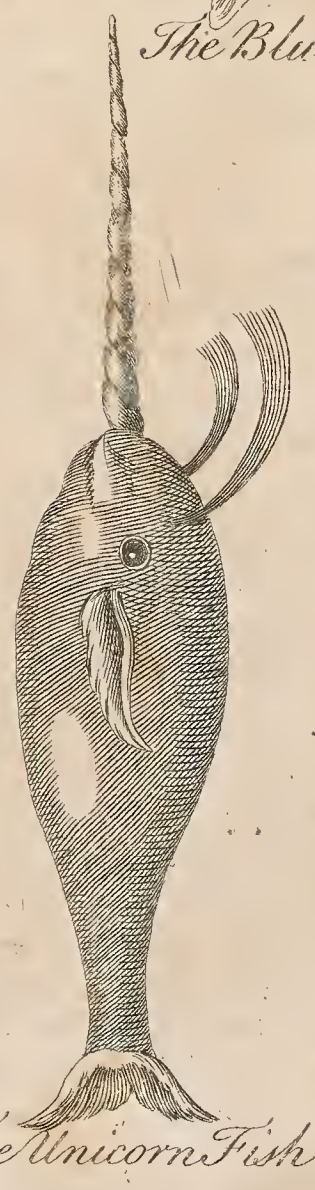
The Zyæna



The Blue Shark



The Sea Eagle



The Unicorn Fish

B. Cole Sculpt.

been waſhed on ſhore, and it's body deſtroyed by the waves, the tooth ſtill remained, and it's ſingularity induced any body that came in ſight of it to pick it up. It was long known, before the fiſh was heard of; and the firſt conjecture about it was, that it belonged to ſome land-animal; it was immediately after declared to be the horn of the unicorn. Medicinal virtues were then aſcribed to it, and it's ſcarcity made it ſell for a vaſt price. It is but a century ago that there were only two or three of them known of, and one of thoſe, in the cabinet of a German Prince, had been purchaſed at the expence of two thouſand pounds: at preſent we have ſcarce any of our collectors without it; and it is ſo common, as to be made a kind of ſign at the doors of many of our druggiſts ſhops.

CATODON.

THE Catodon has teeth only in the lower jaw: there is no fin on the back, and the fiſtule is either in the head, or very forward on the roſtrum.

Catodon fiſtula in roſtro.
The Catodon, with the fiſtule in the roſtrum.

This does not grow to the ſize of many of the other whales, thirty-five or forty feet being it's uſual length, when full-grown, and it being more frequently met with much ſmaller: the head is ſmall, ſhort, thick, and of a roundiſh figure: the mouth is ſmall, and the upper jaw is ſmooth, but in the lower there are teeth; the eyes are very ſmall, and they ſtand high up in the head, and at a conſiderable diſtance from one another: the fiſtule is prominent, and ſtands very forward on the roſtrum; the body is thick and unwieldy; it's diameter is nearly equal to half it's length, and it grows gradually ſmaller to the tail: the back is ridged; the ſides are rounded and very prominent, and the belly is ſomewhat flatted.

This is not met with in the Greenland Seas, but has been thrown on ſhore at the Orkney iſlands, and on ſome other parts of Scotland. Sibbald calls it Balæna minor in inferiore maxilla tantum dentata, ſine ſpina aut pinna in dorſo; Ray has borrowed this name from Sibbald, and none of the other writers have mentioned it.

Catodon fiſtula in cervice.
The Catodon, with the fiſtule in the neck.

The Sperma-ceti Whale.

This is a conſiderably large whale; it grows to ſixty feet in length, and to more than half that in diameter: the body is very thick, bulky, and unwieldy; the head is very large; it is elevated at the vertex, and broad toward the roſtrum, and has ſeveral irregular depreſſions on it: the eyes are larger than in moſt of the whale-kind, and yet they are very ſmall, in proportion to the bulk of the fiſh: the mouth is large; there are no teeth in the upper jaw, but there are about two and forty in the lower; theſe are placed in two ſeries, and are each about the bigneſs of a man's thumb: the fiſtule is large, and is ſituated in the very hindermoſt part of the head, ſo that it ſeems in the neck: the back is very much elevated, and the belly is flatted; the ſides are prominent and rounded, and the whole fiſh is covered with a tough and firm ſkin: the tail is very broad and horizontal.

This ſpecies is frequent in the moſt Northern Seas, and ſometimes has been thrown on ſhore in Holland, and on the northern coaſts of Scotland: it has been very well known to the generality of authors. Ray and Sibbald call it Balæna major in inferiore maxilla tantum dentata, macrocephala, bipinnis; Cluſius calls it, ſimply, Cete; Willughby, Cete Cluſio deſcriptum Pot-walfiſh Batavis maris accolis dictum; Charleton calls it Cetus dentatus; and Purchaſs and ſome of our Engliſh writers, a Trump.

The drug ſo much in uſe at this time, under the improper name of Sperma-ceti, was originally made only from the oil procured from the head of this particular ſpecies of whale, and hence the fiſh obtained the name of the Sperma-ceti Whale: but at preſent our druggiſts purchaſe it of people, who make a trade of preparing it, and who make it from the ſediment of any kind of fiſh-oil; they generally purchaſe, for this purpoſe, the bottoms of the caſks at our oil-ſhops, and from this coarſe matter make the fineſt ſperma-ceti we are acquainted with. While it was really made from the oil

oil obtained from the brain and out of the diploe of the cranium of this ſpecies of whale, which was the caſe at firſt, it is no wonder that it was kept up at a conſiderable price; but, when it was diſcovered that any oil would do, the price ſoon became moderate. The method of making this pure ſubſtance out of ſo coarſe a matter, is, by boiling the oil a conſiderable time, with a ſolution of any fixed alkaline ſalt; the German pot-aſh or pearl-aſhes is generally uſed, when it has been boiled with this liquor, till it become white and firm; it is melted over-again ſingly a great many times, and at length, after ſeveral waſhings to get out the ſaline particles that might remain in it, it becomes the white, firm ſubſtance we ſee, and is cut out into flakes, with knives made for that purpoſe.

It was proper to be the more large on the origin and preparation of this medicine, becauſe people have run at all times into great errors about it; nor are there wanting, even at this time, ſome who, from the idle name that has been given it, ſuppoſe it to be the real ſperm of the whale. What our repeated boilings and bathings do to this oil, the motion of the ſalt-water will ſometimes do for it, without any farther trouble; and to this accident has been owing the firſt knowledge of the drug. It was found ſometimes floating in large irregular maſſes, on the ſurface of the water, in the Northern Seas; it was afterwards obſerved, that this matter was principally found in places where the carcaſſes of dead whales had been broken up, and waſhed to pieces by the water; and ſucceeding obſervation ſhewed, that the oil about the head of this particular whale was what moſt generally afforded it. On the firſt diſcovery that it belonged to the whale-kind, there prevailed a random opinion of it's being the ſemen or ſperm of that fiſh; and, before ſo much was known as that it belonged to the whale or to any fiſh at all, it was ſuppoſed to be a mineral ſubſtance, a kind of bitumen thrown up from the earth at the bottom of the ſea, and floating on it's ſurface. We find this opinion ſtrongly maintained by Schroder and others of his time; and it is, indeed, but very lately that we have been let into the ſecret of what it truly is, and in what manner prepared.

When we trace in this manner the ſeveral ſteps to truth in a recent inſtance, we ſhall not wonder at the many errors we find in the old writers, in regard to the drugs, and other productions of nature or art, in different climates, while they were very well acquainted with their external ſurfaces, their qualities and effects.

THRICHECHUS.

THE Thrichechus has teeth in both jaws: there is no fin upon the back, and the ſkin is very tough, firm, and hairy.

Of this ſingular genus there is but one known ſpecies.

THRICHECHUS. The Sea-cow.

This ſingular creature ſeems to be the link in the great chain of beings, uniting the fiſh and the quadruped tribes, as it is the only fiſh whoſe ſkin is hairy, and like the quadrupeds; it's whole appearance alſo has ſomething in it different from the fiſh-kind, and approaching to that of the land-animals: it grows to fifteen feet, or more, in length, but it's more frequent ſize is about ten or twelve feet, and it is conſiderably thick, in proportion: the head is moderately large, and is oblong, rounded, and has much the appearance of that of ſome of the quadruped kind; it has been ſuppoſed to reſemble that of a cow; but, on a ſtrict obſervation, it will be found more like that of a hog: the eyes are very ſmall, and there are two ſmall apertures in the place of external ears: the mouth is not very large, but it has fleſhy and thick lips, reſembling thoſe of quadrupeds, and there are each way two long teeth which ſhew themſelves: theſe are ſix inches long in a well-grown fiſh, and of the thickneſs of a man's thumb.

There is no fin on the back: the pectoral fins are of an extreamly ſingular figure; they ſtand on the thorax, and reſemble the feet of quadrupeds: each of them is formed of five toes, as it were, connected by a membrane; each toe has three articulations, but the whole fin is not capable of contraction.

The tail is large, and is placed horizontally, in the manner of that of the cetaceous fiſhes: the females have between the pectoral fins two large, round, and fair

breaſts

breaſts; and both ſexes have the parts of generation and the navel perfectly reſembling thoſe of the human ſpecies: the ſkin is hard, firm, and almoſt impenetrable, and has ſhort, browniſh, or greyiſh, hairs on it, but they do not ſtand thick, or cover it in the manner of thoſe of land-animals.

It is a native of Africa, and of the Eaſt and Weſt Indies, and generally lives about the mouths of large rivers; it is found, however, ſometimes out at ſea, at great diſtances from land. It is common in the Red Sea, in ſome of the great rivers of Africa, and in the Amazons river in America, and is often ſeen ſleeping on the ſurface of the water, about the American and Eaſtern Iſlands.

It feeds on vegetables, and it's fleſh is white, firm, wholeſome, and of a very agreeable taſte; it has a power of making an odd noiſe with it's breath: it is extreamly ſhy, when out at ſea, and has ſuch a quick ſenſe of hearing, that the people who go out in ſearch of it, though they ſee many in an hour, find it very difficult to get within reach of one.

Geſner calls it Manatus; Aldrovand and Jonſton, Manatus Indorum; Charleton and others, Manati; Ray, in his Synopſis of Quadrupeds, among which he reckons it, calls it Manati ſive Vacca marina; Cluſius and Haſs, Manathi; Herrera, Taurus marinus, Zuchelli La Donna; and Rochefort, See-kæejen. The Spaniards call it Monathi and Monati; the French, Lamantin and Namantin; the Portugueſe, Pezze Moueller and Muger; and we, the Sea-cow, and the Manatee.

It is probably from an imperfect view of this fiſh, that the opinion of mermaids, mermen, and ſyrens firſt aroſe. This creature has a way of raiſing itſelf upright, and ſtanding, for ſome minutes together, half out of water; a perſon who ſhould look at it from a diſtance in front in ſuch a poſture, would ſee ſomething like hands and breaſts, and this ſeems to be all that has give origin to the reports of ſeeing mermaids, &c. We are told alſo of ſome of them having been caught and taught to ſpin, but we have no exact deſcriptions of theſe mermaids. The manatee and the ſeals are all wonderful tractable creatures, and will be taught a thouſand odd things: we had lately, in London, a ſeal ſhewn publickly, which was more obedient, and had more tricks than a ſpaniel. From ſome ſuch inſtance in a tame manati, it is very poſſible the ſtory of a mermaid, and her being taught to ſpin, may have got footing in the world; for it is very certain, that there never was any ſuch creature as is deſcribed under that name.

THE HISTORY OF ANIMALS.

PART V.

Of BIRDS.

BIRDS are animals, whoſe bodies are covered with feathers, and which have two legs, two wings, and a beak of a firm, bony, or horny texture. They lay eggs alſo, which are covered with a ſhell of a firm, cruſtaceous ſubſtance.

As the genera, as well as the ſpecies of birds, are conſiderably numerous, it will be proper to take the moſt obvious and diſtinctive characters for the arranging them into claſſes, before we deſcend to the genera. The beaks alone afford ſufficient matter for ſuch a general diſtinction, and happily leave all the other characters to be uſed in the generical and ſpecific diſtinctions.

The whole family of birds will be conveniently arranged, according to the ſhape of their beaks, into ſix claſſes, under the names of, 1. *Accipitres*; 2. *Picæ*; 3. *Anſeres*; 4. *Scolopaces*; 5. *Gallinæ*; *and,* 6. *Paſſeres.*

The Claſs of Accipitres comprehends all thoſe which have the beak uncinated or hooked.

The Claſs of Picæ comprehends thoſe which have the beak convex and compreſſed.

The Claſs of Anſeres comprehends thoſe which have the beak dentated or ſerrated.

The Claſs of Scolopaces comprehends thoſe which have the beak ſubcylindric and obtuſe.

The Claſs of Gallinæ comprehends thoſe which have the beak of a conic form, but crooked, and the upper maxilla imbricated.

The Claſs of Paſſeres comprehends thoſe which have the beak conic and attenuated.

After the claſſical names have been thus generally laid down, it will be neceſſary, before we proceed to the enumeration of the ſpecies under their ſeveral genera, to explain what are the principal parts from which the ſpecific diſtinctions are drawn, and by what words they are expreſſed: theſe will occur more frequently in the names than in the deſcriptions of the ſpecies; but as they are ſome of them ſuch as the earlier authors in ornithology have not uſed at all; and others, ſuch as they have employed in a very vague and indeterminate manner; it will be neceſſary to aſcertain their meaning according to the writings of the naturaliſts of theſe improved times.

The term Cera *expreſſes that membrane or naked tunic, which is propagated from the anterior part of the head, and ſurrounds and extends itſelf over more or leſs of the baſe of the beak.*

The term Urrhopygium *expreſſes that part of the body, which is between what we call the lower extremity of the back and the inſertion of the tail. This we call the Rump in Engliſh.*

The

The term Papillosa *expresses a surface naked, or not covered with feathers, but on which there are a number of smaller or larger papillæ.*

The term Artus *is used to express the legs, the wings, and the tail.*

The feet of birds, when the toes are otherwise than naked, are expressed by the two terms Palmati *and* Lobati. *The former of these* Palmati *signifies, that the several toes are connected by membranes one to another. The term* Lobati *expresses the toes having a membrane on each side to increase their breadth, but this not connecting them one to another.*

The other terms used, in regard to the feet, are expressive only of the number of toes on each; these are tridactyli for those which have three toes; tetradactyli for those which have four, and so of the other numbers.

The feathers which distinguish the several species are to be carefully attended to, and nothing could be more necessary than the distinguishing the several series of them by determinate names.

The term Rectrices *expresses those large feathers which constitute the tail of the bird.*

The term Remiges *expresses the large feathers of the wing, by means of which the bird flies; these are separated under two distinct terms of primary and secondary.*

The primary remiges are those placed from the flexure of the wing to it's extremity: the secondary Remiges are those which are situated between the body and the flexure of the wing: the feathers, which serve as a covering to the wings, as the others do to the body, are distinguished by the name of Tectrices.

So few terms as these are all that are necessary to be understood, in order to the being familiar with the names given to the several species. The rest will be easy from the descriptions.

BIRDS.

Class the First.

ACCIPITRES

Birds which have the beak of an uncinated or hooked figure.

STRIX.

THE feet of the Strix have each of them four toes: three of these stand forward, and one backward; but the exterior one of the three anterior is capable of turning backwards.

Strix capite aurito, corpore rufo.
The Strix, with an aurited head, and a reddish-brown body.

The great Horn-owl, or Eagle-owl.

This is an extreamly singular and beautiful bird, and is very worthy to appear first in the enumeration of the species: it is of the bigness of a goose; the wings are very large, and the principal feathers extreamly long and strong: the head is short, round, and large; it is of the size, and much of the figure, of that of a cat, and at the auricles there stand two remarkable series of black feathers; these rise to the height of three fingers breadth above the surface of the head, and very perfectly resemble ears: the eyes are very large and look remarkably fierce; the feathers on the rump are long, extreamly close set, and soft: the beak is short and hooked, and is black; the apertures of the ears, when the feathers are put away, are found to be very large and patent: on each side of the face, about the place of the nostrils, there are a great number of a kind of whiskers resembling hairs.

The feathers covering the whole body are much alike in the several parts; the belly is paler than the back, but those elsewhere are variegated in a tolerably uniform manner, with black and white in spots and clouds, upon a reddish-brown ground; they are large and elegant, and lie in a remarkably regular and beautiful manner on the body.

The

The legs are long and very robuſt; the claws are large, black, ſharp, and crooked; when fully exerted, they make a very formidable appearance: the feet are feathered down to the extremities of the toes, and the covering plumes are of a mixed whitiſh and reddiſh-brown colour.

The tail is longer than the wings, and is variegated with ſeveral duſky brown faſciæ; the wings are not faſciated, but they are variegated with black ſpots, and there are ſome black, tranſverſe, undulated lines, and ſome larger, longitudinal, black ones alſo on the body: the iris of the eye is of a fine orange yellow, and there is no cera or membrane at the baſe of the beak, but the whiſkers already deſcribed ſupply it's place: the plumage that covers the legs is rather like the down of ſome quadrupeds, than of the regular figure of feathers.

This is a native of the Northern Countries. It is frequent in Norway, Denmark, and Sweden, and has been ſeen wild in England about the Suſſex coaſt, and near ſome of the high cliffs in Scotland: it generally lives in thick woods, or among rocks, and ſometimes builds among ruins, though more frequently in the high rocky cliffs. It is a very bold bird, and ſeizes not only leſſer birds, but hares, rabbits, and any kind of ſmall quadrupeds. It preys like the other owls by night, and in the the time of breeding it's young is ſo voracious, as to do infinite miſchief in the neighbourhood of the places where it builds. Geſner calls it Bubo primus; Bellonius, Bubo; and moſt of the other writers have taken the one or the other of theſe names.

Strix capite aurito, corpore albido.
The white, aurited Strix.

The black and white Horn-owl.

This alſo is an extreamly beautiful bird, but it is much more ſcarce than the former. It is equal to a turky in ſize, and is of a beautiful ſnow-white colour, elegantly variegated with ſpots and lines of black: the head is large, rounded, ſhort, and decorated in a very beautiful manner, with a pair of ears or horns, as they are uſually called; they are tufts of erect feathers, having their origin from the verges of the apertures of the ears: the large feathers of the wings are of a ſnow-white, with a few black variegations; the tail alſo is white, and has a few oblong, black variegations: the variegations of black on the body are principally alſo oblong, ſome of them are tranſverſe, and others longitudinal; and ſome are plane, others undulated.

The legs are very robuſt and long; the claws are very ſharp, long, and formidable.

This ſpecies is a native only of the coldeſt climates: there was one of them ſhewn alive ſome years ago in London; it had been brought over by the people concerned in the Greenland fiſhery. Few of the Ornithologiſts have deſcribed it. Rudbeck calls it Noctua Scandiana marina et albo ex cinereo variegata, but the ſpots on that I ſaw were black.

Strix capite aurito pennis ſex.
The Strix, with the head aurited with ſix feathers.

The leſſer Horn-owl.

This is a very beautiful bird, but vaſtly inferior to either of the preceding in ſize: it is equal to a large pigeon, and it's weight is about three quarters of a pound: the wings are very large, and, when fully extended, meaſure, from tip to tip, more than three times the length of the body: the beak is black, moderately large and hooked; the tongue is thick, and ſomewhat bifid; the head is ſhort and rounded, and the whole face has an agreeable, though a very fierce aſpect: the eyes are large, and their iris is of a very beautiful yellow: the ears are long and beautiful; there runs a circle or ring round the face, marking it's outline; this conſiſts of a double ſeries of feathers: the exterior conſiſts of feathers which have very elegant variegations, in little lines of yellowiſh, browniſh, blackiſh, and white; the interior is almoſt entirely of a reddiſh-brown, but, where they meet, they are both black at the edges.

The feathers on the lower part of the belly are of a beautiful reddiſh-brown, and a plumage of the ſame colour is continued down the legs, quite to the toes: thoſe on the breaſt and the middle of the throat are black, but they have variegations of white, and of a reddiſh-brown about their edges: thoſe on the under part of the wings are reddiſh, and toward the baſes of the primary remiges or wing-feathers there are black ſpots, one to each feather; theſe are oblong and large: there is alſo another very large

black ſpot juſt at the flexure of the wing: the reſt of the feathers which cover the wings are very beautifully variegated with black, reddiſh-brown, and white.

The back feathers are like thoſe of the wings; they are black in the middle, and yellow and white toward the edges, and they are laid with an uncommon regularity and order over one another.

The horns or ears conſiſt each of only ſix feathers; they are very elegant and moderately long; the middle of each feather is black, but the edges are of a reddiſh-brown, and ſometimes whitiſh.

The tail is long, and is variegated with ſix or ſeven black, narrow, and tranſverſe areolæ; the intermediate ſpaces are greyiſh on the upper ſide of the tail, and yellow underneath: the principal or long feathers of the wings are of the ſame colours with thoſe of the tail, but in ſome of the exterior ones there is a broad reddiſh-brown faſcia toward the baſe; and, on the largeſt of theſe feathers, the black areolæ are alſo conſiderably bigger than thoſe on the others.

The legs are very robuſt and moderately long; the claws are large, black, and ſharp, and that of the middle toe is, on the interior part, compreſſed into a kind of edge.

On opening the body, the gall-bladder is found to be remarkably large; the appendages of the inteſtines alſo are very large and tumid; and the ſtomach large, and uſually filled with the bones of mice, ſometimes with the cruſtaceous remains of large beetles, and other inſects.

It is a native of moſt of the warmer parts of Europe; Italy, and the South of France, abound with it. It was long ſuppoſed not to be a native of our own country, but it has been diſcovered wild, and breeding with us, but that very rarely. It is ſo like the great horn-owl in every thing but ſize, that many of the earlier writers on theſe ſubjects were in debate, whether it were properly a diſtinct ſpecies, or only the young of that. All the writers on this part of natural hiſtory have deſcribed it. Bellonius call it Aſio and Otus; Willughby, Otus ſive Noctua aurita; Ray, Otus ſive Noctua aurita, Aſio Latinis. It ſometimes inhabits ruins and deſerted buildings, but more frequently the hollow trunks of trees in large foreſts, and flies abroad in the evening.

Strix capite lævi, corpore ferrugineo oculorum iridibus atris, remigibus prioribus ſerratis.

The brown Strix, with a ſmooth head, with black eyes, and the primary wing-feathers ſerrated.

The grey Owl.

This is a large and beautiful bird; it is equal in ſize to a well-grown pullet: the general colour is grey, with a ſlight tinge of a ferrugineous brown in it: the head, the back, and the wings are of this colour; the tail alſo is of the ſame colour, only paler than the reſt, and all theſe parts are variegated with ſpots of white and of black; the breaſt is of a paler grey than any other part, and the belly is white, but variegated with a number of elegant black ſpots: the head is remarkably large, thick, and full of feathers; it is of a rounded figure, and has no ears or horns: the eyes are large and beautiful; their iris is of a deep black, and they are ſurrounded in a beautiful manner, with each a circle of ſhort white feathers; and within theſe, at the verge of the eye-lids, there is a circle of red: the beak is crooked, ſtrong, and of a greeniſh colour; the noſtrils are very wide: the wings are very large; they are, when cloſed, ſo long, as to reach to the extremity of the tail: the legs are moderately long, and very robuſt; they are feathered all the way down to the very ends of the toes; the claws are large, ſtrong, very ſharp and grey.

Behind the ears, in this ſpecies, there is a ſegment of a circle formed of extreamly odd feathers; and, toward the ſides of the back, the white ſpots are large and frequent. The three firſt of the remiges or wing-feathers are ſerrated at the exterior edge, and are gradually ſhorter, and all of them are of a pale grey colour, with a number of broad, brown faſciæ: the tail-feathers are greyiſh, and have fine brown faſciæ, excepting only the two intermediate ones; and the feathering of the legs is white, with black ſpots.

This ſpecies is frequent in many parts of Europe; it principally inhabits thick woods, and lives in the trunks of hollow trees. Geſner calls it Ulula; Aldrovand alſo calls it, ſimply, by the ſame name; he has given a tolerably accurate deſcription

of it, from one which he kept in his houſe alive: Willughby calls it Ulula Aldrovandi; Ray, Ulula Latinis; and in another place, Noctua. The Engliſh names of Owl and Howlet, and the French of Hulot, ſeem to be derived from this Ulula; but the bird, commonly expreſſed by thoſe names, is not this ſpecies, but the other, deſcribed by authors under the name of Aluco. This is a bold feeder; it will ſeize upon almoſt any kind of poultry, and feeds alſo on the leſſer quadrupeds.

Strix capite lævi, corpore luteo.
The yellow Strix, with a ſmooth head.

The yellow Owl.

This is a moderately large ſpecies, it is equal in ſize to a well-grown chicken: the head is large, thick, rounded, and elegantly covered with feathers, but there are no erect ones to form what are called ears or horns: there are circles of ſhort and elegant feathers about the eyes and ſegments of circles, formed of feathers of the ſame kind behind the ears: the back is of an elegant yellow; the breaſt is of a paler yellow, and the belly is whitiſh: the legs are very robuſt and ſtrong, and the claws are large, long, and ſharp, and are of a bluiſh-grey colour.

This is a native of ſome of the northern parts of Europe, but it is not common; we have it not in England. It lives in thick woods, hiding itſelf by day in the trunks of old trees; it comes out in the evening, and feeds on mice, ſmall birds, and almoſt any living thing ſmaller than itſelf that it can lay it's claws on. None of the authors who have written on birds have deſcribed it, except the Swediſh. Rudbeckius calls it Strix tota flammea; and Linnæus, Strix capite lævi, corpore luteo. They meet with it in Sweden occaſionally, but it is far from frequent there; it is oftener ſeen in the foreſts in Norway, and is met with alſo in Denmark; but it is every-where a very ſhy bird, ſo that it is rarely that it comes into any body's hands, even in the places where it is moſt frequent.

Strix capite lævi, corpore fuſco, oculorum iridibus fulvis.
The brown Strix, with a ſmooth head, and the eyes brown.

The hazel-eyed Owl.

This is of the ſize of a pigeon: the head is large, rounded, and elegantly ornamented with feathers, but they are not elevated in any particular part, nor is there the leaſt approach toward an appearance of ears or horns: there is a circle of ſoft, regularly diſpoſed, and pale brown feathers round each eye, and a ſegment of a circle formed of the ſame kind of feathers about each ear, but theſe lie flat: the general colour of the feathers of the head is a duſky brown, but the ſhort and ſoft ones are paler than the others: the back and ſides are of a deep duſky brown; the breaſt is of a paler brown, and the belly is much paler than this, and has an admixture of white: the eyes are large, and their iris is of a duſky brown, with an admixture of a reddiſh-yellow, or orange colour: the beak is broad, ſhort, thick, hooked, and ſharp; the legs are ſtrong and thick; the claws are long and robuſt; they are of a bluiſh-black, and are extreamly ſharp at the points.

This is a native of the northern parts of Europe; we have it in England, but not common. I ſhot one, about four years ago, in Charleton foreſt in Suſſex. It was the only one I have ſeen in England, nor do any of the writers on birds mention the ſpecies, except the Swediſh ones, Olaus, Rudbeckius, and Linnæus; the former of theſe call it Noctua major oculorum iridibus croceis; the latter, Strix oculorum iridibus fulvis, corpore fuſco.

Strix capite lævi, corpore fuſco, oculorum iridibus luteis.
The brown, ſmooth-headed Strix, with the iris of the eye yellow.

The yellow-eyed Owl.

This is a larger bird than the former, but it reſembles it in many particulars: it is of the ſize of a raven: it's head is very large and full of feathers; the eyes are beautifully ſurrounded with each a circle of ſoft and regularly diſpoſed plumes: the whole head alſo has a verge of the ſame kind of feathers, diſtinguiſhing it from the body, and there is a ſegment of a circle of the ſame at the ears: the body is of a greyiſh-brown colour, elegantly variegated with large, round ſpots of white; the circle ſurrounding

rounding the head is duſky and blackiſh, and the head itſelf is ſomewhat paler than the body, otherwiſe it is of the ſame kind of colour: the beak is broad, ſhort, hooked, and of a whitiſh colour; the eyes are very large and beautiful, they are of a pale yellow: the breaſt is grey, with but little tincture of the brown; the belly is ſtill paler: the legs are long, but not ſo thick as in the former; and the claws are long, ſharp, and formidable.

This is a native of Sweden, Denmark, and Norway; it is ſometimes ſeen in England, but has not been known to breed here. It lives principally in ruined buildings; with us, it is chiefly ſeen about the high cliffs on ſome of our ſea-coaſts, ſo that it is probable it only comes to us occaſionally. None of the naturaliſts have mentioned it, except Rudbeck and Linnæus; the former of theſe call it Noctua major oculorum iridibus pallido-luteis; the other, Strix capite lævi, oculis flavis.

Strix capite lævi, corpore ſupra fuſco, albo maculato, rectricibus faſciis albidis.
The ſmooth-headed, brown Strix, ſpotted with white, and with white faſciæ on the tail.

The variegated-tailed Owl.

This is a very beautiful ſpecies; it grows to the ſize of a common crow: the head is large, ſhort, rounded, and elegantly feathered: the back and ſides are of a duſky brown, variegated with moderately large round ſpots of white; the breaſt and belly are of a fine ſilvery grey, approaching to white, and are variegated with ſhort and ſomewhat undulated lines of brown; every feather has five or ſix of theſe faſciæ: the wings are brown, and have only a few ſpots of white on them; the long wing-feathers are brown alſo, and have only a few, ſmall, white ſpots about their edges: the tail is very remarkable; it is near twelve inches in length, and is very narrow, in proportion: it's colour is brown, and it has from nine to twelve white faſciæ on it: the head is grey, and is variegated with a great number of ſpots and undulated lines: the regions of the temples is of a greyiſh-white; both the canthi of the eyes are black, and from the ears there runs on each ſide an oblong black ſpot to the baſe of the beak; this becomes narrower by degrees, and there is an oblong, grey line, variegated with black, which unites with it at the end: the throat is ornamented alſo with a black ſpot; the legs are very robuſt and ſtrong; they are feathered down to the feet, and the claws are remarkably large, long, and ſharp, and are of a bluiſh-black colour.

This has been ſometimes killed in England, but very rarely; I was favoured with a ſpecimen, ſhot not far from Scarborough, laſt ſummer: this is the only one I have ſeen. Linnæus mentions it as a native of Sweden, and is in ſome doubt about it's being a diſtinct ſpecies, but to me it appears evidently ſo.

Strix capite lævi, corpore fuſco, remigibus albis maculis quinque ordinum.
The brown Strix, with a ſmooth head, and five ſeries of ſpots on the wing-feathers.

The little owl.

This is an extreamly pretty little bird, and is ſo ſmall, indeed, that it appears very ſingular to ſee the marks of this genus on it. It is about the bigneſs of a black-bird: it's wings are long, and, when extended, meaſure at leaſt double the length of the whole bird: the beak is ſhort, broad, hooked, and white; the tongue is a little bifid: the lower part of the palate is black; the head is large, round, and covered thick with feathers, and has all the marks and characters of that of the owl-kind: it is ſeparated from the body by a circle of peculiar feathers, and this is broad toward the lower part, but behind the ears it becomes ſo narrow, as to be ſcarce diſtinguiſhable.

The back and ſides are of a cheſnut brown, with ſome admixture of a ferrugineous red, and are variegated with oblong, white, tranſverſe ſpots, and there are five or ſix diſtinct tranſverſe lines on the tail: the tail itſelf is not very long; it conſiſts of twelve feathers, all of the ſame length: the circles of feathers about the ears, and on the other parts of the face, are variegated with white and brown; the breaſt is variegated with oblong ſpots of a duſky brown, but the belly and the throat are of a bright and beautiful white.

The

The remiges or long, wing-feathers are very beautifully variegated at their edges, with five ſeries of white round ſpots.

The ears of this ſpecies are large; the eyes, on the contrary, are ſmall, but they are extreamly bright and beautiful, more ſo indeed than thoſe of almoſt any other ſpecies: the iris is yellow; the legs are ſhort and robuſt: they are feathered almoſt to the ends of the toes, only that there are two or three naked annules: the inner part of the foot is yellow; the claws are black and ſharp; the head is elegantly ſpotted with numerous white dots, and the baſe of the beak is ornamented with a kind black whiſkers.

This elegant ſpecies is frequent in Germany, and in many other parts of Europe, but we have it not in England: moſt of the naturaliſts, who have written on birds, have deſcribed it. Geſner and Aldrovand call it, ſimply, Noctua; Ray, Noctua minima; Willughby, Noctua minor et minima. It lives in woods, in the hollow trunks of trees, and feeds on mice, ſmall birds, and every living thing that is ſmaller or weaker than itſelf.

Strix capite lævi, corpore albido.
The white Strix, with a ſmooth head.

The great, White Owl.

This is a very large and a very ſingular ſpecies: it is nearly equal to a gooſe in bigneſs, and it's colour is a beautiful bright white all over: the head is very large and rounded; it is ſeparated from the body by an elegant and regular circle of feathers, ſofter than the reſt, and beautifully arranged; and there are two other ſuch circles about the eyes, and parts of ſuch at the ears: the reſt of the head is of the ſame white with the body, but it is oddly and irregularly ſprinkled over, as it were, with little ſpots of a blackiſh colour: the tail alſo is white, and is ſpotted with the ſame manner with black: the breaſt and belly are of the ſame white with the back and ſides, but they are variegated with ſome tranſverſe, undulated lines of a greyiſh-brown, and the covering feathers of the wings are ornamented alſo in the ſame manner.

The long feathers of the wings, when expanded, are found to be of a ſnow-white, but variegated with a double ſeries of ſmall, black ſpots, and ſometimes there is a third ſeries of them.

The legs are very robuſt, and the claws long and terrible; they are of a bluiſh-colour, and very ſharp.

This ſpecies is a native of many of the northern parts of Europe, but it has not been ſeen in England. It lives in foreſts, and is a very bold and voracious bird, feeding on hares, rabbets, and other of the ſmaller quadrupeds, and ſometimes attacking lambs, when very young. The authors who have written on birds have been in general unacquainted with it. Rudbeckius and Linnæus have both deſcribed it, however, as a native of Sweden. Rudbeck calls it, Noctua Scandiana maxima ex albo et cinereo variegata.

Strix capite lævi, corpore ferrugineo, remige tertia longiore.
The brown, ſmooth-headed Strix, with the third of the wing-feathers longeſt.

The common brown Owl, or Jay-owl.

This is the moſt frequent with us of all the owl-kind: it is of the ſize of a pigeon, but the body is ſhorter, in proportion to it's thickneſs; it's weight is about three quarters of a pound: it's wings are large and ſo long, that, when extended, they meaſure two feet and a half from tip to tip: the beak is large, broad, and hooked, and is of a bluiſh or horniſh colour: the opening of the mouth is extreamly large, the fiſſure reaching beyond the immediate root of the beak: the tongue is not large, but it is ſomewhat bifid at the extremity, and on the palate there is a cavity fit to receive the tongue: the eyes are vaſtly large and protuberant; the eye-lids have a broad, reddiſh edge: the apertures of the ears are alſo very large, but they are covered with a membrane: the face is marked by a circle of feathers peculiarly arranged; this circle conſiſts of two ſeries of feathers; the exterior one is more rigid, and is variegated with black, white, and brown; the inner is compoſed of ſofter feathers, and they are only variegated with white and flame-colour: the ears are ſurrounded by this circle,

or

or are within it's verge, and indeed furniſh feathers to it: the eyes ſtand nearer to the ears in this bird, than in any other known animal: between the noſtrils and the eyes there are a number of rigid ſetæ, forming a kind of beard or whiſkers.

The back and ſides of this ſpecies are of a mixed, ferrugineous, and black colour; every feather appearing black in the middle, and ferrugineous at the edges; but if any one feather be ſeparated, and attentively examined, it will be found elegantly variegated with tranſverſe lines of grey and brown: the belly is of the ſame general colour with the back, but there is a mixture of white that gives it a paler hue; the bottom parts of all the feathers are black, and all the feathers are longer, larger, and more downy than in almoſt any other bird. All the owls have this ſingularity in their plumage, and it is owing to this, that they appear much larger-bodied birds than they really are; but this has it more than any other ſpecies of the whole genus.

The legs are moderately long and very robuſt, and they are covered down to the very toes with a thick plumage of a downy ſtructure; this is of a whitiſh colour, variegated with duſky, undulated lines, and interrupted by two or three naked annules.

The great feathers of the wings are twenty-four in each, and both theſe and the tail-feathers have each ſix or ſeven areolæ of a duſky white, variegated with brown, and a duſky, ferrugineous tinge; and the covering feathers of the wings, and thoſe of the upper part of the back, which are longer than the others, are variegated with ſpots of white: the tail conſiſts of twelve feathers; the middle ones are longeſt, and the others gradually decreaſe to the verge, but all of them are ſharp-pointed, which is very different from their form in the common ſcreech-owl.

The under part of the foot is hard, callous, and of a pale whitiſh-brown, with a tinge of yellow; the claws are long, ſharp, and blackiſh: the inteſtines are very long, and make a great number of circumvolutions: the liver is divided into two lobes; the gall-bladder is large: the teſticles are large and black, and the ſtomach is remarkably robuſt and thick.

This is one of the moſt frequent of all the owl-kind; it is common to all parts of Europe, and to moſt other places: all the Ornithologiſts have deſcribed it. Willughby, Ray, Aldrovand, and the generality of other writers call it, ſimply, Strix; we, the common Owl, the brown Owl, and the Joy-owl. It is this ſpecies which utters that chearful and agreeable hooting, which we hear on evenings: this ſeems to be a note of exultation and joy in the creature, and is erroneouſly, though very poetically, deſcribed by the author of a late anonymous poem *, one of the beſt in the Engliſh language:

Save that, from yonder ivy-mantled tow'r
The moping Owl does to the moon complain,
Of thoſe who, wand'ring near her ſecret bow'r,
Moleſt her antient, ſolitary reign.

It is pity ſo elegant a deſcription ſhould not be juſt; but it is certain, that the bird has no title to the epithet moping, while ſhe thus lengthens out her even ſong; nor is it complaint, or the effect of moleſtation.

Strix capite pinna ſingulari aurita.
The Strix, with the head aurited by a ſingle feather. **The Scops.**

This is an extreamly elegant little ſpecies; it is of the bigneſs of a fieldfare, but has all the characters of the owl-kind in the ſtrongeſt manner about it: the head is large, ſhort, rounded, and very thickly covered with feathers; they are ſhort, but very downy, and are of a duſky blackiſh-grey, or what we properly expreſs by the term lead colour: the ears or horns, as they are called, are ſhort, but very erect; they conſiſt each only of a ſingle feather, but that is very well plumed, and makes an extreamly pretty appearance: the back and ſides, and the covering feathers of the wings, are of a colour approaching to that of the head, but not exactly the ſame; they are paler, and are of a ſimple grey, without that admixture of the blue tinge, which gives the other what we call the lead colour. This, however, is not the ſole ſimple colour,

* An elegy written in a country church-yard.

every feather has on it a number of elegant, round, white ſpots, and the whole back of the bird is by theſe variegated in an extreamly beautiful manner: the larger feathers of the wings and tail are of the ſame grey with thoſe of the back, only paler; and they are variegated with almoſt innumerable little white ſpots, diſpoſed in ſeveral tranſverſe ſeries, and there is beſide a long black line on each: the ſhoulders and upper part of the wings, in the male birds, have a beautiful caſt of reddiſh-brown in the grey, which gives the white a yet greater advantage: on the belly the feathers are paler than any where elſe, and toward it's lower part they are, indeed, whitiſh; but in theſe, as in all the others, the roots are black.

The eyes of this ſpecies are very large, and remarkably bright; their iris is of a flame colour: the beak is ſhort, black, and crooked; the legs are not very robuſt, but they are feathered down to the toes, which makes them look thick; the plumage upon them is grey, with a tinge of reddiſh-brown: the toes are ſmall and ſlender, they are of a greyiſh or lead colour; the feathering does not reach over them, but they are ſquammoſe.

This is frequent in Italy, but is not ſo common in any other part of Europe: it lives in woods, and ſometimes about old buildings, and comes abroad only in the night, then making a loud hooting noiſe. It feeds on field-mice and inſects; moſt of the naturaliſts have deſcribed it. Aldrovand, Ray, Willughby, and others call it Scops; others, Scops Aldrovandi; the Italians call it Chiuvino.

Strix capite aurito, albida, cauda longiore.
The Horn-owl, with a long tail.

The German Horn-owl.

This is of the ſize of a jack-daw, and of a beautiful ſilvery grey colour, approaching to white: the head is round, large, and very full of feathers: the ears or horns are ſhort, but very erect, and compoſed each of about ſix feathers: the beak is very broad at the baſe, but it is ſhort, crooked, and of a pale bluiſh colour: the eyes are very large and bright; their iris is of a fine colour, and the pupil black: the head is of a ſomewhat greyer colour than the body, and both are variegated in a very elegant manner with minute ſpots of a ſnow-white: there are many of theſe ſpots on every feather, but they are not diſtinguiſhable, unleſs on a cloſe inſpection.

The wing-feathers, and thoſe of the tail, are of a very beautiful pearly grey; thoſe of the tail are remarkably long; they are twelve in number, and are all of the ſame length, and obtuſe at the ends: the legs are ſhort, thick, and plumoſe down to the toes; the plumage upon them is fine and downy, and is of the ſame pearly grey with the wing-feathers, but it has a little tinge of brown in it.

The bottoms of the feet are of a lead colour, and the claws, which are leſs formidable than in many other ſpecies, are black.

This ſpecies is frequent in the South of France; I have had three ſeveral times ſpecimens of it from thence, yet it has been unknown to the generality of the writers on this ſubject. Aldrovand is the only one who ſeems but to have named it; and he barely mentions it, at the end of his deſcription of the Scops. He ſays, it is a native of Germany, and is like the Scops, but of a whitiſh colour, and that it has longer ears, and a much longer tail.

It lives in foreſts, in the ſtumps of decayed trees, and comes abroad only in evenings. It feeds on field-mice and inſects.

Strix dorſo variegato, capite lævi.
The variegated-backed, ſmooth-headed Strix.

The Church-owl, or leſſer Barn-owl.

This is a very beautiful bird, and, if it were leſs common among us, would not fail to be admired extreamly; it is of the ſize of a pigeon: the head is large, ſhort, and rounded, and is ſurrounded by a circle of white feathers like a ruff, ſupported behind by another circle of ſhorter, but more rigid, feathers, of a duſky yellow; this takes it's origin from behind the eyes, and runs down on each ſide to the throat, and has much the appearance of a woman's head-dreſs ſurrounding the face: the back part of the head is of a pale brown, ſprinkled over with little whiſh ſpots: the eyes are large, but they ſeem, on account of this circle of feathers, to be ſunk deep into the head: the noſtrils are oblong; the apertures of the ears are broad and patulous, but there

are no erect feathers ariſing from them; they are covered, however, by a kind of valve, which has it's origin from the upper and interior part, near the eyes.

The breaſt and belly of this bird are covered with elegantly variegated feathers; they are white, and the ſpots which form the variegations are brown, and of a quadrangular figure: but 'tis on the back that the beautiful variegations ſhew themſelves; the feathers which cover this part of the bird, are beyond that of any other of this genus in beauty; they are each of the ſame yellowiſh-brown colour at the baſe, but toward the tip they are variegated with undulated lines of black and white, which are diſpoſed in a regular and elegant manner, and form, by their aſſemblage, an elegant grey or hoary colour, when viewed at a little diſtance; and along the body of the feather there run alſo lines formed of alternate black and white ſpots, ſome of them placed ſingly, ſome in orders of four, three, or two together.

The long feathers of the wings are twenty-four in number, and the largeſt of theſe are variegated with brown areolæ, uſually four on each feather, and the ſmaller have uſually three: the intermediate ſpecies are of a yellowiſh-brown, and are ſprinkled over with a kind of irroration, as it were, of minute black ſpots: the exterior feathers are terminated at the ſides by disjunct pinnules, ſo that they appear pectinated, or deeply denticulated: the whole wings are ſo long, that, when cloſed, they reach a little beyond the extremity of the tail.

The tail is compoſed of twelve feathers, all very nearly of the ſame length, and in colour the ſame with thoſe of the wings; the interior edges of all theſe, as well as of thoſe of the wings, are white: the legs are robuſt and long; they are covered to the toes with a thick plumage of a whitiſh colour, but the toes themſelves have only a kind of hairineſs in the place of this plumage: the claws are large and formidable, and that of the middle toe, in particular, is ſerrated on the interior ſide, in the manner of that of the heron, and ſome other birds of that kind, but not ſo viſibly: the ſerrature, however, in the full-grown bird, may always be diſtinguiſhed.

This ſpecies is extreamly common with us, and in almoſt all other parts of Europe; nor indeed is it peculiar to this, or, as it ſhould ſeem, to any part of the world. I have received a ſpecimen of it, as a great curioſity, from Sardinia; and Marcgrave figures and deſcribes it as a native of ſo remote a part of the world as the Braſils, under the name of Tuidara. Aldrovand, and many of the other writers on birds, have called it Aluco minor; ſome, Ulula variegata. We call it the Church-owl, and the leſſer Barn-owl; it hoots in the ſame manner as the common joy-owl. It is frequent among ruined buildings, and in barns and other places where there is food for mice and the other creatures on which it preys: it is ſeldom ſeen abroad, but often heard through a great part of the evening.

Strix capite lævi, dorſo plumbeo, roſtro albeſcente.
The ſmooth-headed Strix, with a bluiſh-grey back, and a whitiſh beak.

The White-beaked Owl.

This is a very beautiful ſpecies; it is ſomewhat larger than our common joy-owl, and it's head ſeems, in a remarkable manner, too big for the body: it is round, and is incircled by a very beautiful ſeries of pale-coloured feathers, approaching to whitiſh, and behind theſe there run a ſeries of ſhorter black ones: the back part of the head is of a deep and duſky bluiſh-grey, and is variegated with a few ſpots of white: the the eyes are very large, and altogether black; they ſeem all iris, and that of this deep colour; and they make a very ſingular figure, as they appear ſunk in the head, by means of the height of the circle of ſurrounding feathers: the apertures of the ears are wide, but they have no erect ſeries of feathers riſing from them: the beak is broad, crooked, and whitiſh.

The back is of a deep duſky lead colour, with a great many ſpots of a bright white, which form very elegant variegations; and the breaſt and belly are white, and have many ſpots of black on them; theſe are not large, nor diſpoſed with any ſort of regularity.

The legs are robuſt and long; they are covered with a white and tolerably thick plumage down to the toes, and the toes themſelves, with a number of ſcattered hairs of the ſame colour, reſembling a kind of rarer plumage: the tail is long, and the wings are ſo long, that, when cloſed, they reach to the end of it.

This

This is a native of the warmer parts of Europe: it is very frequent in Spain and Portugal; it is alſo frequently met with in Italy, and in the South of France, but we have it not with us. Aldrovand calls it, Aluco prior; and Willughby and others have borrowed the ſame name.

Strix corpore fuſco albis maculis variegato, roſtro flaveſcente.
The yellow-beaked Strix, with a brown body, variegated with white.

The yellow-beaked, American Owl.

This is a very ſmall, but an extreamly ſingular, ſpecies: the head is large, round, and incircled with a border of beautiful feathers: the whole bird is not much larger than a thruſh. The head is almoſt equal to the body in ſize, when the creature erects the feathers on it, as it does, when angry or ſurprized; but, without this extraordinary circumſtance, it is very large, in proportion to the body: the beak is broad, ſhort, crooked, and yellow; the foramina of the noſtrils are two, and are very conſpicuous, the eyes are very large, beautiful, and of a bright yellow; the apertures of the ears are patulous, and have a membrane taking it's origin from the interior upper part, and extending over them: the upper part of the back is remarkably broad, and about it's baſe, as alſo under the eyes, there are placed a number of black, rigid hairs, making a kind of whiſkers.

The back is of a duſky brown or amber colour, and is elegantly variegated with ſpots of white; theſe on the head and neck are very ſmall, but on the back they are much larger: the breaſt and belly are white, and are variegated with ſpots of the ſame brown, which is the principal colour of the back.

The legs are robuſt and ſhort; they are covered down to the toes with a very elegant and beautiful plumage, of a yellowiſh-white: the inſide of the feet is yellow, and the claws are long, ſharp, and black: the tail is remarkably broad.

This is a native of the Braſils, nor do we know of it in any other part of the world. It is deſcribed by Marcgrave under the name of Noctua Braſilienſis Cabure dicta; and he tells us it is very tractable, and will be learned to play tricks in the manner of a monkey.

Strix dorſo flaveſcente maculis nigris variegato.
The yellow and black Strix.

The Jacurutu.

This is a very elegant ſpecies; it is of the ſize of a ſmall pigeon: the head is very large, and of a roundiſh figure; the eyes are large, and ſeem ſomewhat ſunk in among the feathers; the circle that ſurrounds the whole head, and ſeparates it from the body, is formed of a double ſeries of fine, ſoft feathers; the anterior one paler, the hinder darker-coloured, and ſhorter: the ears are patulous, but there are no erect feathers growing from them, like thoſe which give an appearance of horns to ſome of the others: the beak is broad at the baſe, and is ſhort and crooked, and of a bluiſh colour: the wings are long; the back is beautifully variegated; the ground colour is a bright yellow, with a tinge of orange colour, and the variegations are of a deep black, and are diſpoſed in form of ſpots: the legs are robuſt, but not long; they are feathered down to the toes: this feathering is like a kind of fine down, and is of a pale whitiſh hue, as is alſo the belly of the bird; the breaſt is alſo pale and ſpotted.

This beautiful bird is a native of the Braſils; we have it ſent over to us ſometimes as a curioſity dried. Linnæus calls it Feliceps flaveſcens maculis nigris, a name firſt given to it by Barrilierus; and Marcgrave, in his account of the Braſilian birds, calls it Jacurutu.

Theſe are all the known ſpecies of owls properly ſo called; authors have, indeed, included ſome very different birds, under the ſame name. The Caprimulgus, or Churn-owl, of authors, though almoſt univerſally ranked among theſe, is of a very different genus; it is properly a ſwallow.

FALCO.

THE beak of the Falco is ſtrong and uncinated, and the feet have always three toes before, and one behind, no one of the anterior ones being capable of turning backwards.

Falco cera lutea, pedibus lanatis, corpore rufo.
The ferrugineous Falco, with feathered legs, and the cera yellow.

The Eagle.

This is a very large and beautiful, as well as a very terrible, bird: the ſize is that of a turky, and the weight not leſs than ten or twelve pounds: the head is large, and the beak is remarkably large, and very thick and convex toward the baſe, and at the point the upper part of it is three quarters of an inch longer than the under, and bends over the other; it is of a blackiſh colour, and very firm ſubſtance: it's baſe is covered with a yellow cera or membrane, in which the noſtrils are placed in a tranſverſe direction; the edges of this upper part of the beak are ſharp, and the tip is blacker than the reſt, which is often rather bluiſh than quite black: the opening of the mouth is very wide; the tongue is in ſhape like that of the human ſpecies; it is rounded at the anterior extremity, and has two appendages of a hooked figure on each ſide at the baſe: the palate is perforated; the eyes are very large, and the part of the head, immediately over them, is prominent, ſo that they ſeem ſunk in a kind of hollow; they are very bright and piercing: the iris is greeniſh, with a caſt of fire colour in it; the pupil is black: nature has taken ſurprizing care to defend them from injuries, for, beſides the nictitating membrane which ſerves other birds in the place of our eye-lids, this has four eye-lids, two above and two below, which it cloſes over the eyes at pleaſure.

The feathers of the neck are rigid, and of a cheſnut brown: the wings are very large, and extend to a ſurprizing breadth; they are of a brown colour, as is alſo the tail: the whole body is of a duſky, ferrugineous brown, with a few ſpots of white on the back, and more on the belly: the large feathers of the wings, though extreamly long, have that part, which we call the barrel, ſhorter than in the gooſe-quill; but it is very firm and elaſtic, and they make the fineſt pens in the world for writing: the feathers which cover the body are not large, and toward the lower part of the back they are of a darker colour than in any other part, and have fewer ſpots.

The legs are robuſt, and are feathered down to the toes; the plumage on them is brown: the feet are yellow, and the claws are very long, ſharp, and terrible, and of a bluiſh-black; they are equal to the toes themſelves in length, and are very thick at the baſe: the anterior part of the body is of a brighter, the poſterior of a duſkier, brown, and the tail is nearly of the colour of the anterior part of the body, and has ſeveral white ſpots on it.

This is frequent in many parts of Europe; the foreſts in Germany abound with it, and it is met with in ſome plenty in Denmark, Norway, and Sweden. I have ſhot one in Charleton foreſt in Suſſex, and once found a neſt there, built in a ſtrange wild manner, and with four eggs in it. It frequently builds in the high rocky cliffs about the Scotch ſhores, and in ſome of the rocky precipices in Ireland.

It is a very rapacious and bold bird; it will ſeize on lambs, and, in the time of it's having young, ſcarce any thing is ſafe for it. All the writers on birds have deſcribed it. Geſner calls it Aquila Germana; Jonſton, Aquila Geſneri ſive Chryſaetos aquila; Willughby, Chryſaetos; Ray calls it alſo by the ſame name. The Swedes call it Ornand; we, the Eagle; and ſome of our writers, the golden Eagle.

Falco corpore caſtaneo, cera cæruleſcente, cruribus plumoſis.
The cheſnut-coloured Falco, with feathered legs, and a bluiſh cera.

The brown Eagle.

This is a very bold and fierce bird: the head is large, and the feathers which cover that and the neck are rigid and long, but narrow: the beak is ſhort, but very

robuſt; the baſe is convex, and the point of the upper part is very hooked and ſharp, and hangs a good way over the lower; it is of a bluiſh-black colour, and ſpotted with a darker hue; there is a hollow or channel along the top of the under part, which receives on each ſide the ridge of the upper: the extremity is very ſharp, and the baſe is covered with a cera, or membrane of a variegated blue or whitiſh colour, and in this the noſtrils are viſible, opening in a tranſverſe direction: the cera runs up very high in this ſpecies, and the face is bald almoſt up to the eyes: the opening of the mouth is wide, and the palate and tongue are fleſh-coloured; the ſize of the bird is that of a large dunghil cock; the colour is a duſky cheſnut-brown, with a few whitiſh ſpots, and in ſome with ſcarce any; the tail is long, and is beautifully variegated with a tranſverſe, annular mark of white: the legs are robuſt and yellow; they are feathered down below the joint, but not quite to the toes: the feet are yellow, and the claws are remarkably large and ſtrong.

This ſpecies is frequent in ſome of the large foreſts in Germany; we have had one of them lately ſhewn alive in London. Willughby and Ray call it Chryſeatos cauda annulo albo cincta.

Falco pedibus ceraque cæruleis, corpore ſupra fuſco, capite albo.

The Falco, with the cera and the legs bluiſh, the head white, and the body brown.

The bald Buzzard.

This is a bird of that ſize and figure, that Aldrovand, and many of the other writers on birds, have ranked it among the eagles. It is of the ſize of a large cock; it's weight is between three and four pounds: the head is large and white, whence it has obtained the name of bald, as at a diſtance it appears as if there were no feathers on it; but it is as thick ſet as any other part with them, only that this ſingularity of colour gives ſo odd an appearance: the beak is large and ſtrong, and is very crooked; the colour is a deep bluiſh-black, and the extremity is hooked, and very ſharp: the baſe of it is covered with a membrane which is of a bluiſh colour, and in which the noſtrils are viſible; they are oblong and oblique: the angle of the lower jaw is rounded; the tongue is broad, ſoft, and rounded at the extremity: the eyes are large and very bright; the iris is yellow, and the pupil black; there are upper as well as lower eye-lids to the eyes, but the lower are much the larger: the eyes are not ſunk in under a kind of prominent eye-brows, as in the eagle, but they are prominent.

The back and wings are of a deep duſky colour, between ferrugineous and black; the breaſt and belly are white: the legs are long and robuſt, and are covered with ſhort and ſoft feathers: the feathers of the wings are very large, and they are pointed at the extremities; the largeſt of them are the darkeſt-coloured, and the interior edges of them all are variegated with white and brown: the feathers under the ſcapulæ are white, but they have ſpots of a ferrugineous black toward their tops. The third and fourth order of thoſe which cover the roots of the large wing-feathers underneath are beautifully variegated with ſpots of a ferrugineous colour, and are brown at the edges; over theſe there ſtand other ſmall white ones, and over theſe larger brown ones: the tail conſiſts of twelve feathers, nearly equal in ſize, and variegated at the edges with white and brown.

The legs are long and robuſt; the feet are of a bluiſh colour, and very ſtrong; the toes are thick, and the middle one is longeſt; the outer one of the three anterior is a little longer than the inner, and the hinder toe is much ſmaller than any of the others: the claws are black; they are very large, of a ſemicircular figure, and ſharp: the feet are ſquammoſe or ſcaly, and their under part is ſcabrous, or furniſhed with little punctules, by means of which it is enabled to hold any thing the more firmly.

The heart is large; the liver alſo is large, and the gall-bladder proportioned to it: the ſpleen is round, and of a blackiſh colour, and the ſtomach is large and robuſt: the inteſtines are long and ſlender, and are very much convoluted.

It is a native of England, and of moſt parts of Europe; it lives principally in damp places, among the reeds and ſedge by the ſides of rivers and large ponds, and by the ſea; it builds on the ground, among the tall graſſes and flags, and lays three or four large eggs of an elliptic figure, and altogether white in colour. It feeds on fiſh: this is a very ſingular circumſtance, as it ſeems by no means qualified by nature for catch-

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ing ſuch prey, having neither webbed feet, nor a long neck or legs; that it does catch them, however, is evident, from it's ſtomach being always found loaded with the bones of them. This I found in one, which I killed, laſt ſummer, in an oſier holt near Peterborough; and all the authors who have deſcribed it, mention the ſame circumſtance.

Geſner calls it Cyanopoda and Falco cui pedes cærulei. Aldrovand ranks it, as before obſerved, among the eagles, and deſcribes it, twice over, under the names of Haliætus and Morphnos. Willughby calls it Balbuſardus, a ſtrange name formed from the Engliſh one; and Ray calls it Balbuſardus Anglorum.

Falco cera flava, rectricibus albis, verſus apices nigris.
The Falco, with a yellow cera, and with the tail-feathers white, and black at the end.

The Pygargus.

This is a very large bird; it at leaſt equals a peacock in ſize, and it's weight is about eight or nine pounds: it's wings are very large, and, when fully extended, meaſure, from tip to tip, very near three times the length of the whole body: the head is not very large, in proportion to the body: the beak is ſhort, but it is very robuſt and hooked; and the bent part of the upper mandible reaches a finger's breadth beyond the lower; the whole beak is of a deep yellowiſh colour, and this extream part is nearly black: the cera, or membrane covering the baſe of the beak, is yellow, and the noſtrils are very conſpicuous in it; they are oblique, and are near half an inch long: the tongue is broad, fleſhy, and black toward the extremity, and the palate is hollowed to receive it: the eyes are very large, but they do not ſtand prominent; they are rather a little ſunk in, under the ſwelling of the part of the head above them: their iris is hazel, or in ſome of a reddiſh yellow, or deep orange colour: the legs are very long and robuſt, and the feet are ſtrong, and have a callous tubercle on the under part; they are yellow; the claws are black, and are very large; the hinder one is not leſs than an inch in length, and is very ſharp.

The head is white; the feathers are long and narrow, and their ſcapi are blackiſh: in the ſpace between the eyes and the noſtrils there are no feathers, but there are in their place a kind of ſetæ, with the baſes lanuginous: the beginning of the neck is of a ſomewhat reddiſh-brown, and the neck is all the way down covered with oblong and narrow feathers: the whole body is covered with feathers of a duſky, ferrugineous colour, but the rump is black, and the tail is in part white: it conſiſts of twelve feathers, and they are all of them white from the top to half way of their length, and black in the other half: the long wing-feathers are twenty-ſeven in number, and the third and fourth of them are longer than the others; the wings, when cloſed, do not reach quite to the extremity of the tail: the barrels of the large quills are ſhort, but they are very firm and elaſtic, and make excellent writing-pens; theſe large feathers are all black, and the edges of ſome of the ſmaller covering feathers of the wings are grey.

The liver in this bird is very large, and the gall-bladder is in proportion: the teſticles in the males are large and oblong and the inteſtines are ſlender, but very long, and convoluted: the throat is extreamly wide, but the ſtomach is but ſmall: the female, in this ſpecies, is ſomewhat paler-coloured than the male; and the belly, in both ſexes, is paler than the back.

It is frequent in Italy, and many of the warmer parts of Europe, but has not been met with in England, and but rarely in Germany. It lives in foreſts, and is a very bold feeder; hares, and other of the ſmaller quadrupeds, are it's uſual food, but it will ſeize on almoſt any thing. Geſner calls it Pygargus; Ray alſo gives it the ſame name; Willughby calls it Pygargus ſive Albicilla, quibuſdam Hinnularia. The name Pygargus has, however, been uſed by ſome of the ornithologiſts in a confuſed manner, and we are not always to underſtand this ſpecies by it in their writings. Aldrovand's Pygargus is the ſame with our ſecond ſpecies; the brown Eagle, and the Pygargus prior of Bellonius, is no other than the male of that ſpecies of hawk to be deſcribed hereafter, and which we call the Hen-Harrow.

Falco cera flava, cauda forcipata, corpore ferrugineo, capite albidiore.
The forked-tailed Falco, with a yellow cera, a brown body, and a whitiſh head.

The Kite.

This is a common bird with us, but it is a very ſingular one in it's form and manner of flying, and is not without it's beauty: it is about equal, in the bulk of the body, to a large tame pigeon, but the wings are immoderately long and large; they meaſure nearly three times the length of the body, when fully extended: it's weight is about two pounds.

The head is ſmall, and is of a pale, or ſomewhat whitiſh, colour; the throat is alſo of the ſame greyiſh-white, and the beak is ſhort, but broad, and the hooked part of the upper mandible turns a good way over the under: both the head and the throat have variegations of a blackiſh hue among the grey, formed of oblong lines, deſcending down the ſcapi of the feathers: the neck is of a reddiſh-brown, but the middle parts of the feathers are black; the back is of a dark brown, but the feathers near the tail are of a paler brown, nearly of the ſame colour with thoſe of the tail itſelf, but the ſcapi of theſe alſo are black in the middle: the ſmaller feathers which cover the wings are variegated with a reddiſh-brown, with black and with white; the black always occupying the middle part along the ſcapi: the long feathers on the ſhoulders have black lines on them, like thoſe of the long wing-feathers; and thoſe which cover the under part of the wings, are of a reddiſh hue, with black ſcapi: the feathers on the throat are of a greyiſh colour, and red at the edges, and black in the middle; thoſe on the breaſt and belly have leſs and leſs black on them, all the way down to the tail; and thoſe under the tail have only the ſcapi black.

The long wing-feathers are four and twenty in number; the five outer ones are black, and the ſix next to theſe are of a greyiſh-black, and then all the reſt are black, to the very hinder ones of all, which are variegated with brown, white, and reddiſh: all theſe, except the five or ſix exterior ones, are variegated with tranſverſe black lines on the outer edges, and the middle are paler: the wings, when ſhut, are of the length of the tail; they reach as far as the middle or forked part of the tail, but not to the ſides.

The tail is forked, and that very deeply; the feathers in the middle being more than two inches ſhorter than thoſe at the ſides: the colour is a brown, not very deep, and with a caſt of reddiſh in it; the exterior feathers are blackiſh, and all, indeed, except the middle ones, have black tranſverſe lines on their interior edge; the tips or extremities of all are white.

The beak is black, broad, ſhort, and hooked: the tongue is broad and thick, and there is a cavity formed in the palate for the receiving it; the inſide of the mouth is yellow, and the membrane on the top of the beak is alſo yellow: the noſtrils are very conſpicuous in this: the eyes are very large and fierce, and their iris is of a whitiſh colour, with a fine tinge of yellow.

The legs are yellow; the outer toe is connected to the middle one, almoſt half way of it's length, by a membrane: the claws are large, black, and ſharp; that of the hinder toe is much longer than any of the others; that of the middle one is formed into an edge on it's anterior part.

The mouth opens very wide in this bird, and the ſwallow is very great: the gall-bladder is large, and the inteſtine below the appendages is greatly dilated, as is the caſe alſo in ſome other birds of prey: the forked ſhape of the tail diſtinguiſhes this at ſight from all the other birds of prey, yet known.

The

The buſineſs of flying ſeems in greater perfection in this bird than in any other; it has a way of lying up on the air with it's wings expanded, and unmoved for a long time together; and, when it changes place, oftener does it by a kind of ſliding, than by the vibration of wings, practiſed by other birds. The tail is the great inſtrument of direction to this bird, while it's wings lie expanded: we often ſee this moved, while they are perfectly at reſt; and Pliny delivers it as the opinion of the antients, that the uſe of the rudder in ſhips was found out, by means of the uſe this bird was obſerved to make of it's tail.

The kite uſes it's power of flying to a very proper purpoſe; it traverſes whole ſeas, and, though uſually ſeen ſingle with us, is, in ſome places, and on certain occaſions, ſeen in flights like thoſe of ſwallows. Bellonius, from his own obſervation, mentions flights ſo large on the hills, about the ſhores of the Euxine, in April, that people were aſtoniſhed to conceive how or where it was poſſible they ſhould find food. There are many parts of Europe in which the kite is a bird of paſſage, but they breed and ſtay all the year with us.

It is a general opinion that the kite will feed only on fleſh; but Bellonius aſſerts, that he has ſeen them in Ægypt ſettle on the palm-trees, and feed voraciouſly on the dates: but, though this be a fact, there is reaſon to believe that hunger, and an abſence of all other proviſion, could only be the cauſe of it. It's moſt favourite food ſeems to be the young of domeſtic fowls, chickens, turkies, and geeſe. It has a ſurpriſingly piercing eye, and, when it ſeems diverting itſelf in the air with it's indolent wavings, it generally has it's looks about, from that height, on ſome brood of one or other of theſe fowls: it does not chuſe to fall upon them while together, or under the protection of the parent, but will be whole hours upon the watch to ſee one ſtraggling from the reſt, and, when that happens, it is down in an inſtant, and carries off the prey. The parent animals underſtand the buſineſs of it's hovering, though at ſo vaſt a diſtance in the air, and make ſignals to their young, whenever they ſee it.

All the writers on birds have mentioned this ſpecies, and all under the ſame ſimple name Milvus. The Swedes call it Glada; and we, the Kite; and, in ſome places, the Glead.

Falco pedibus flavis, corpore cinereo, maculis fuſcis, cauda faſciis quatuor.
The yellow-legged Falco, with a grey body ſpotted with brown, and with four faſciæ on the tail.

The gentle Falcon.

This is a very beautiful bird; it is of the ſize of a raven, or ſomewhat larger: the head is ſmall, and ſomewhat flatted on the crown; the beak is broad, ſtrong, and hooked, but not very long; the membrane on it's baſe is of a fine bright yellow; and the noſtrils are very conſpicuous in it: the eyes are large, and very bright and piercing; their iris is yellow.

The upper part of the head is of pale ſilvery grey, with a few ſmall, browniſh ſpots on it: the greater part of the body is grey, and has alſo ſeveral ſpots of brown on it; theſe are much larger than thoſe of the head, and are of an irregular figure; the tail is grey, and has four brown faſciæ on it: the under feathers of the head are black, and their edges are ferrugineous: the head, the neck, and the upper part of the wings are brown, but the tips of the feathers are ferrugineous: the breaſt and belly are of a yellowiſh hue, but there are a few oblong, brown ſpots under the throat, as alſo on the breaſt and belly; and there are ſome of the ſame kind on the thighs, only they are narrower.

The long feathers of the wings are brown on the outer ſide or edge, and white on the inner, but they have ſome whitiſh or greyiſh ſpots, and four or five brown, tranſverſe lines: the tail-feathers are all brown, both on the upper and under ſides, and they have each five or ſix broad and black faſciæ on them; the ſmaller feathers which

cover the under part of the wings are of a yellowiſh-white, with ſome brown, longitudinal lines.

This ſpecies is a native of Germany, Sweden, and ſome other parts of Europe, and is ſometimes ſeen with us but rarely, nor are we aſſured that it breeds here. This is the kind that was in principal favour, at the time when hawking was a favourite diverſion. All the authors on natural hiſtory have mentioned it. Willughby calls it Falco gentilis, id eſt, nobilis; and he alſo deſcribes it in another place, as if a different ſpecies, under the name of Falco Montanus; and Ray, and moſt of the writers ſince his time, have uſed the ſame name. It is a very bold and voracious bird, but is eaſily made tame and tractable.

Falco pedibus roſtroque cæruleis, maculis albis nigriſque longitudinalibus.

The blue-legged Falco, with oblong, black and white ſpots.

The Lannar, or Lannaret.

This is a very beautiful bird; it's ſize is that of a common crow; it's colours are beautifully variegated, and it's whole figure elegant, and yet formed in an uncommon manner for ſtrength: the head is ſmall; the beak is broad at the baſe, not very long, hooked, and extreamly ſharp at the point, and of a deep blue colour: the eyes are large, and very bold and piercing: the noſtrils are ſmall and tranſverſe.

The head and neck are pale, and elegantly variegated; the colours are black and white, but the white is in greatly the larger proportion; the variegations are not in form of ſpots or tranſverſe lines, as is moſt uſual, but in longitudinal ones: the back and the upper part of the wings are much darker than the head and neck; the colours are indeed the ſame, but the black is predominant, and the white lines are faint, as well as few in number.

When the wings are extended, their under part is ſeen variegated in a very uncommon manner with white ſpots; theſe are round, and reſemble ſo many ſmall pieces of money; they are ſcattered irregularly over the ſurface; the round figure of theſe, as the other marks on the body, are oblong, have a particularly odd appearance.

The tail is moderately long, and the feathers are ſpotted, and very elegantly arranged, and are obtuſe at the ends.

The legs are ſhort and blue; the claws are very ſharp and black.

The male of this ſpecies is ſmaller than the female, and is paler-coloured, and both of them immediately, after the moulting time, have a yellowneſs diffuſed over the other colours, which might deceive an unwary eye into the opinion of the ſpecies being different; but this tinge wears off after a few days.

It is a very bold bird, when wild, but it is very eaſily tamed, and is uſually kept in many parts of Europe for the diverſion of hawking. Though ſmaller than ſome of the others uſed to that purpoſe, it will ſeize on any thing, the heron and cranes not excepted.

It is a native of ſome of the warmer parts of Europe, and is ſeen occaſionally in many places where it is not ſo; it breeds in France, and lives there the whole year; all the writers on theſe ſubjects have deſcribed it. Geſner calls it Lanarius; Aldrovand, Lanarius Gallorum; Willughby, Lanarius cujus mas tertiarius. It is a perfectly diſtinct ſpecies from the Italian one next to be deſcribed, though too many of the writers on theſe ſubjects have confounded them together.

Falco dorſo ſubcæruleo, pectore flaveſcente.
The blue-backed Falco, with a yellow breaſt.

The Italian Lannar.

This is an extreamly beautiful bird; the ſize is that of a rook, and the colours are very bright and beautiful: the head is ſmall and flat at the top; the colour is a pale yellow, with an admixture of bluiſh in ſome parts, toward the edges of the feathers: the eyes are large and black; the beak is very robuſt, ſhort, and blue; it's point is hooked and very ſharp; the back is of a deep and very beautiful iron grey, with a fine tinge of blue, ſo that in ſome lights it appears wholly blue; there are ſome black tranſverſe lines on it, and ſome few yellowiſh ones: the breaſt and belly are yellowiſh, and have a multitude of ferrugineous, irregular ſpots, and the extremities of the wings are ornamented with a number of beautiful, round, white ſpots, in form of eyes.

The wings are long, and the tail alſo is long: the legs are ſhort, and not very robuſt; they are blue, and quite naked; the claws are very long, ſharp, and black.

This is a native of Italy, and ſome other of the warmer parts of Europe. Moſt of the writers on birds have confounded it with the French or common lannar; but ſome of them have deſcribed the bird, which they call by that name, in ſuch a manner, as to ſhew that they have meant this ſpecies by their accounts, and not that intended by the authors from whom they have borrowed the name. It is a very bold bird, and is very troubleſome about the houſes of people who breed up the domeſtic fowls.

Falco roſtro nigro pedibus luteis, corpore ſupra fuſco, ſubtus albo-cinereo, maculis tranſverſis.
The yellow-legged Falco, with a black beak, and with a brown back, and a ſpotted breaſt.

The Gyrfalcon.

This is a large and very bold bird; it is indeed the largeſt of all the birds of this genus: it's ſize is that of a common dunghil cock: the head is ſmall, flatted on the top, and grey in colour: the beak is ſhort, but it is extreamly thick and ſtrong, and is ſharp, and very much hooked at the point: the eyes are large, and very fierce and piercing; the iris is bluiſh, the pupil black.

The back is of a browniſh colour, though with a tinge of grey among it: the breaſt and belly are of a very pale grey, approaching to white, but variegated with tranſverſe ſpots of brown: the feathers of the tail and wings are of a greyiſh-white, but they are ornamented with ſpots of a deep black, of a heart-like ſhape, and in ſome meaſure reſembling the eyes in a peacock's tail: The largeſt of the wing-feathers are terminated by one of theſe black ſpots bigger than the others, and edged with a verge of white: the tail is long, and the wings alſo are very long; when expanded, they reach to a vaſt breadth, and, when cloſed, they come very nearly to the tip of the tail: the throat is of a pure and elegant white, variegated with brown ſpots: the tail has ſome tranſverſe black marks on it: the legs are yellow; they are very thick and ſtrong, and the claws are very ſharp and ſtrong.

The ſize of this bird of prey makes it a match for any thing of the winged kind, and it is bold and fierce to a ſurpriſing degree; it will ſeize herons, and the larger birds of all kinds.

It is a native of ſome of the northern parts of Europe; moſt of the writers on birds have deſcribed it. Rudbeck calls it Falco perigrinus albo-cinereus viridis, pedibus flavis; Willughby, Ray, and others, Gyrfalco. We call it the Gyrfalcon, or the Jerfalcon, and the male the Jerkin. The term Gyrfalco is of German origin, and is given it on account of it's ſize and boldneſs, Gyr being the German name of the vulture.

Falco

Falco cera luteo-viridi, pedibus luteis, corpore ferrugineo, vertice fulvo.
The yellow-legged Falco, with a ferrugineous body, and yellow head.

The Moor-buzzard.

This is of the ſize of a common crow: the head is ſmall, and not ſo flat as in many other birds of prey at the top, but narrower than in moſt, and more rounded: the beak is robuſt and moderately long, and is of a deep bluiſh-black colour: the membrane of it's baſe is of a greeniſh-yellow: the noſtrils are very conſpicuous; they are oblong, broad, and of a ſomewhat kidney-like ſhape: the inſide of the mouth is partly bluiſh, and partly black, and the tongue is broad and thick: the rima or fiſſure in the palate is broad and patulous: the eyes are large, bright, and fierce; their iris is yellowiſh, and the pupil is black.

The upper part of the head is of a pale and whitiſh brown, ſometimes deeper, and with a tinge of reddiſh, but in either caſe it is variegated with tranſverſe lines of a deep black; the upper part of the throat alſo is of the ſame colour: the whole body is of a duſky, ferrugineous colour, only the breaſt and belly have more of a tinge of yellowiſh than the back; the wings are of a ferrugineous colour alſo, but there is, on the middle of each, a ſpot of a yellowiſh-white: the feathers, at the origin of the tail, are of a yellowiſh-brown.

The wings are very large, and ſo long, that, when cloſed, they reach to the extremity of the tail: the long feathers are twenty-four in each, and the exterior one of theſe is a great deal ſhorter than that which is immediately next to it: the ſhort feathers, which cover the under ſide of the wings, are of a mixt yellowiſh and brownish colour: the tail is about ſeven inches long; it is compoſed of twelve feathers, all of the ſame length; and, when the bird expands it, it forms a kind of ſemicircle at the extremity: the colour is a bright gloſſy brown, with ſome admixture of a darker brown, but both colours are elegant, and the whole ſurface is very gloſſy.

The legs are long, and they are feathered a little lower than the knees: the legs and feet are yellow; the claws are very long and ſtrong, and are of a deep black: the outer toe of each foot is connected above half way down to the middle one, by a membrane; and the claw of the middle toe is ſharpened into an edge, on it's inner ſide.

The gall-bladder in this bird is remarkably large; the appendices to the inteſtines or cæca are ſmall and ſhort: the ſtomach is large and membranous.

The feathers which cover the upper parts of the legs are long, narrow, and of a greyiſh-brown, and are variegated with oblong and irregular ſpots of black: the beak is of a bluiſh-black, often quite black.

This ſpecies is a native of moſt of the northern parts of Europe; we have it in ſome parts of England in conſiderable abundance. It lives frequently in the midſt of great heaths, and other tracts of barren and unfrequented lands, and generally is ſeen ſitting on the ſtumps of low oaks. It builds in mooriſh and boggy places: moſt of the writers on birds have deſcribed it under the name of Milvus æruginoſus, and the Moor-buzzard. Bellonius calls it Circus; and Aldrovand and ſome others, not perceiving this, have deſcribed the Circus of Bellonius over again, as if a different ſpecies. It is to ſuch errors, which indeed are much too common in the writings of the naturaliſts, that we owe the ſeeming multiplicity of the ſpecies. Nature has limited the number in moderate bounds; but when one of the old writers gives one name, and another another to the ſame bird, their careleſs followers, not attending to the ſimilarity of their deſcriptions, give two in imitation of them, as if they were ſpeaking of two different ſpecies; and too often, not knowing to what they belonged, have made a third ſpecies, by deſcribing afterwards the creature under a name of their own.

Falco

Falco pedibus, cera palpebriſque flavis, capite fuſco, nucha et abdomine albis.
The yellow-legged Falco, with the head brown, and the ſhoulders and belly white.

This is a large bird: the head is ſmall, and flatted at the top; the beak is broad, ſhort, ſtrong, very hooked, and of a blue colour: the membrane, at it's baſe, is yellow; the eye-lids alſo are yellow: the eyes are large, and very bright and piercing; their iris is red: the upper part of the head is of a duſky blackiſh-brown, and the hinder part, toward the ſhoulders, is white: the ſides of the head alſo are white, and ſo is the throat.

The belly is white, variegated with ſpots of black; there is a ſpot of black of an oblong form on every feather: the legs are of a duſky grey, with a tinge of brown, and the tail is, on the under part, of a mixt, ferrugineous, and whitiſh colour.

The wings are very large, and cover a great ſpace, when they are expanded; when cloſed, they reach beyond the end of the tail.

The long feathers of the wings are of a bluiſh tinge, with a mixture of black and grey, except the firſt of them, which are abſolutely black, only that the verge of the extremities of them is white, and the others have from five to ten ſpots of white on the inner edges.

The tail is long and acuminated; the two intermediate feathers are longer than the reſt, and have no variegations, but all the others are ſpotted; they have each about nine ſpots on them, and theſe are more diſtinguiſhable on the inner edge than elſewhere: all the feathers on the body are of a duſky iron grey toward the baſe.

The legs are long, naked, and yellow; the claws are very robuſt and ſharp, and are of a deep horn colour.

This ſpecies is a native of ſome of the northern parts of Europe; I have met with it in Yorkſhire and in Suſſex, but it is not common with us: wherever I have ſeen it, it has been in the midſt of large and undiſturbed woods. It is a bold bird; it uſually ſits toward the top of ſome high tree, under cover of the boughs, and will fly at almoſt any thing that comes in ſight: the wood-pigeon ſeems it's favourite prey. It has been overlooked by many of the naturaliſts, though a very ſingular bird, but it has not often fallen in the way of people in theſe ſtudies; thoſe who have deſcribed it, have called it Subbuteo and Dendro falco.

Falco cera pedibuſque luteis, dorſo fuſco, pectore pallido, maculis longitudinalibus fuſcis.
The yellow-legged Falco, with a brown back, and a pale breaſt ſpotted with brown.

The Buzzard.

This ſpecies is of the ſize of a pheaſant; it's weight is about thirty ounces: the head is large, which is contrary to the moſt of this genus: the crown or ſummit of the head is depreſſed, broad, and flat; the beak is ſhort, but it is very thick and ſtrong, and is of a bluiſh-black colour, and very hooked and ſharp at the point: the cera or membrane at the baſe of the beak is yellow, and in this are placed the noſtrils, which are oblong, and very conſpicuous: the opening of the mouth is wide, and it is yellow within: the tongue is large, thick, fleſhy, and obtuſe at the end; the palate has a furrow in it, equal to the ſize of the tongue: the angle of the lower jaw is circular: the eyes are large, and have a bold, fierce, and piercing look; their iris is uſually whitiſh, but ſometimes it has with the white a tinge of red or yellow: the lower eye-brow is lanuginous, and the nictitating membrane is blue.

The whole upper part of the body, the back, ſhoulders, neck, rump, &c. are of a duſky brown, with a caſt of reddiſh in it, but ſo deep, that it tends to blackneſs; it may not improperly be called a ferrugineous black: the feathers covering the upper part of the wings are ſometimes variegated with white ſpots, and theſe ſpots are ſometimes diſpoſed quite irregularly, ſometimes ſo as to form a line; but this is very uncertain, and in many of the birds there is not the leaſt appearance of any white at all; in ſome alſo, the feathers on the ſhoulders have a few of theſe white ſpots, but this is equally uncertain and irregular; theſe feathers on the ſhoulders, and thoſe on the upper parts of the wings, however, are uſually yellowiſh about the edges.

The breaſt and the belly are of a pale whitiſh colour, with a faint tinge of yellow, and are variegated with oblong ſpots, of a duſky, ferrugineous brown; theſe are not diſpoſed tranſverſely, but longitudinally running down the feathers: the feathers which cover the under parts of the wings are alſo variegated in the ſame manner; but toward the ſides, and on the thighs, they are variegated with oblong ſpots and ducts, which are diſpoſed tranſverſely, not longitudinally: the throat is of a ferrugineous colour, but the ſtems of the feathers are black; and between the eyes and the noſtrils there are a number of ſetæ or whiſkers of a black colour: the feathers growing on the upper part of the back are long, and reach down ſo far, as to cover the whole back; on the middle of it there grow no feathers, there is only a downy matter.

The long wing-feathers are about twenty-four in each wing; the exterior one of theſe is much ſhorter than the others, and the third and fourth are the longeſt: the extremities of the four exterior ones are alſo narrower, and blacker than thoſe of the others, though moſt of the others have their extremities indeed quite white, and they are all variegated on the inner part with tranſverſe lines of white and brown, in the manner of thoſe of the ſnipe: the reſt of the under ſurface of the wings is white, variegated in a regular and beautiful manner, with tranſverſe lines of black running parallel to one another: the wings are ſo long, that, when cloſed, they reach very nearly to the extremity of the tail; when open, they expand over a great ſurface.

The tail is ſeven or eight inches long: it is compoſed of twelve feathers, and, when expanded, is rounded at the extremity; the extremity of each feather is grey; beyond this grey part there runs a tranſverſe black line, of the breadth of a finger: the reſt of the feather is variegated with tranſverſe lines, alternately black and grey, and the baſe is white.

The thighs are long, very robuſt, and muſcular; the legs are ſhort, thick, and robuſt, and they are feathered a little lower than the middle joint: the lower parts of the legs and the feet are yellow and ſcaly; they are very hard and harſh to the touch, and the claws are long, robuſt, and ſharp: the outer toe is connected a little way by a membrane to the middle one, but it is not ſo much as in many other ſpecies: the claw on the outer toe is the ſmalleſt of all, and that on the hinder one is the largeſt.

The liver is large, and is divided into two lobes; the gall-bladder is very large: the ſpleen is of an oval figure, and the teſticles in the male are large and oblong: the ſtomach is large, and is not muſculous as in the others, but membranous, and much like that of ſome quadrupeds.

When this bird grows old, the upper parts of the head and the back become grey, and, at laſt, almoſt white; the males and females alſo differ in the having or wanting white ſpots and variegations on theſe parts, ſo that it would be eaſy for a perſon, not upon his guard as to theſe varieties, to make two or three ſpecies from this one.

This ſpecies is a native of moſt of the northern parts of Europe; it breeds with us, and is, in ſome parts of the kingdom, very frequent, particularly where there are thick woods to ſcreen it. It is a very ravenous bird, and, when it has not ſuch food as it likes, will take up with almoſt any thing. It will ſeize upon rabbits, and even hares: it's ſwallow is ſo large, that whole ſparrows have been found in the ſtomach; but, in

ſcarcity of other food, it will eat worms and beetles, and is often ſeen rooting up the dung of oxen, in ſearch of the common black beetle. It builds in woods, and lays three or four large eggs; theſe are ſometimes wholly white, and ſometimes they are variegated with large red ſpots.

Moſt of the naturaliſts have deſcribed it. Geſner calls it Buteo; Willughby, Buteo vulgaris; and Ray, Buteo vulgaris ſive triorchis. This latter name is borrowed from the old authors, who had an opinion, that the buzzard had three teſticles. Pliny tells us, that the Greeks called by this name, and for this reaſon, the bird which the Romans named Buteo; but there is no better foundation, than the miſtake of ſome ignorant perſon in the diſſection of the bird, for this opinion: the teſticles in this are two, as in all the others; and they are ſo like to thoſe of the other birds of prey in their figure and ſituation, that it is a wonder any thing particular ſhould ever have been ſaid about them.

Falco pedibus ſeminudis flavis, cera nigra, capite cæruleo, caudæ faſcia cinerea apice albo.
The yellow-legged Falco, with a black cera, a blue head, and a variegated tail.

The Honey-buzzard.

This is a large ſpecies: it is of the ſize of a full-grown hen, and of the ſhape of the former ſpecies or common buzzard, except that it is longer, in proportion to it's thickneſs: the beak is large, and ſomewhat long; it is of a black colour, very hooked, ſharp at the point, and protuberant between the noſtrils and the forehead: the cera or membrane at it's baſe is large, thick, wrinkled, and black; the noſtrils are very conſpicuous in this; they are of a figure not rounded, but ſomewhat oblong and bent: the opening of the mouth is extreamly wide, and is yellowiſh within; the angle of the lower mandible is ſemicircular: the eyes are large, and have a very fierce and piercing aſpect: the iris is of a deep yellow, approaching to orange colour.

The head is of a grey colour; the crown or top of it is broad, flatted, and grows narrow toward the baſe of the beak: the bottoms of the feathers, in the hinder part of the head, and on the top of the back, are white: the back is of a duſky brown, ſomewhat between the ferrugineous and the mouſe-colour; and the extremities of the long wing-feathers, and of ſome of the inveſtient ones, are white.

The wings are not ſo long as in ſome of the other ſpecies; they are, when cloſed, conſiderably ſhorter than the tail: there is on each of the wings, and alſo on the tail, a broad tranſverſe areola of grey, and over this another, though narrower, of black; and the tips of the wing-feathers are grey, and of thoſe of the tail white: the long wing-feathers are twenty-four in each; the tail-feathers are twelve; they are ten or twelve inches long, and are variegated with zones, or broad tranſverſe lines of blackiſh and white: the extremities are white, and juſt at the edge of the white part there is a narrow black line, and this is ſucceeded by a ſpace of three fingers breadth, which is grey.

The throat, and the lower part of the belly, near the origin of the tail, are white as ſnow, without any variegations: the breaſt and belly are white, variegated with black ſpots.

The legs are ſhort, robuſt, and thick; they are feathered below the joint; the naked part and the feet are yellow; the claws are long, black, and very ſharp.

The inteſtines in this bird are ſhorter, and have fewer convolutions than in the others: their appendiculæ are but few, thick and ſhort: the liver is divided into two lobes, and the gall-bladder is remarkably large: the ſpleen is oblong, and the teſticles are large and oblong.

This

This a native of moſt parts of Europe, but is not very frequent in England, though it builds with us. It forms it's neſt of twigs of trees, and lines it with wool: often it takes the deſerted neſt of ſome other large bird, as the kite or common buzzard; it lays four eggs, which are large, of an elliptic figure, and ſpotted irregularly with a duſky crimſon. It builds with us in woods, and ſometimes on ſingle trees on heaths. It is a very ſingular bird in it's manner of feeding; for though ſo large, and able to ſeize on almoſt any thing that the others do, it feeds principally on reptiles. As the other birds of this kind are principally on the wing, this is frequently ſeen ſearching it's prey on the ground; it runs very ſwiftly in the manner of our domeſtic fowls, and feeds on worms, beetles, and caterpillars. It is frequently ſeen hunting out the neſts of wild bees and waſps, feeding on the creatures themſelves, and on their produce: it uſually deſtroys the combs of theſe inſects in great quantity at it's breeding time, the nymphæ of the bee and waſp being the principal food it provides it's young. All the writers on birds have deſcribed it. Willughby calls it Buteo apivorus, ſive veſpivorus; and Ray, Buteo apivorus et veſpivorus. Some have called it Accipiter Palumbarius; but this is a name which confounds it with another of the birds of prey.

Falco pedibus ceraque flavis, dorſo rufeſcente, pectore maculato, cauda rotundata.

The yellow-legged Falco, with a brown back, a ſpotted breaſt, and a rounded tail.

The Kaſtril.

This is a very beautiful bird; it is of the ſize of a pigeon: the head is ſmall, flatted on the crown, of a greyiſh colour, and elegantly variegated with long and narrow ſtreaks of black, the middle part of every feather being of that colour: the beak is ſhort, and broad at the baſe, and very hooked, and ſharp at the point: it is of a deep bluiſh-black colour, and it's upper mandible has on each ſide a denticulation, and the lower, on each ſide, a ſinus: the membrane covering the baſe of it is yellow, and ſomewhat wrinkled; in this the noſtrils are conſpicuous, though they are not very large, the naked part about the eyes alſo is yellow.

The throat is white; the back and the feathers which cover the wings are of a deep reddiſh-brown, or ferrugineous colour, and every feather is ornamented with a ſingle acute ſpot near the extremity: the breaſt, the belly, and the thighs, are of a paler, ferrugineous colour than the back, and they are variegated with longitudinal black ſpots; theſe are narrow and linear on the breaſt, but they are broader, and approach to an oval figure on the belly, and on the thighs they are more rounded, though ſtill oblong, and are very numerous; under the tail there is a ſpace of a pale colour, without a ſingle ſpot of any kind; and the ſpace between the lower part of the back is of a greyiſh colour.

The legs are long and robuſt, and they are, in great part, naked and yellow.

The long feathers of the wings are twenty-two in number, and of theſe the ſecond is the largeſt, and from this, to the end, all the others become gradually ſhorter: they are all of them brown on the upper part, and of a hoary grey underneath; they have each ſeven or eight white marks on their hinder part, the anterior part is not variegated.

The tail-feathers are very long, but the lateral ones are ſomewhat ſhorter than the others; they are of a greyiſh or hoary colour, and each of them has a broad, black faſcia toward the end; and each has alſo, in the hinder part inward, ſeven or eight lines of black, excepting only the two intermediate ones, which have none of theſe ſpots, but are ſimply and entirely grey, except that they have the ſame faſcia of black at the extremity with the reſt.

The feathers which cover the under part of the wings are white, and are variegated in an elegant manner, by a number of black ſpots.

The

The males and females in many of the birds of prey differ, in ſome reſpects, from one another; all the variation in theſe is, that in the female the tail is ſomewhat different in colour: the twelve long feathers which compoſe it are of a ferrugineous colour, but each is terminated by a large black ſpot at the extremity, and each has alſo nine or ten tranſverſe ſpots of the ſame black colour.

This ſpecies is frequent in many parts of Europe, but leſs ſo in England than elſewhere. It does not live in foreſts, as moſt of the others, but, like the owl, is fond of ruined buildings, and ſometimes builds in them, but more frequently in the high ſtony cliffs on the ſea-coaſts. It lays four roundiſh eggs of a beautiful white, ſpotted with purple. It is a very bold bird, conſidering it's ſize; there is ſcarce any fowl that eſcapes it. Moſt of the writers on birds have deſcribed it. Geſner calls it Tinnunculus accipiter; Aldrovand, Tinnunculus ſive Cenchris; Willughby and Ray, Tinnunculus.

Falco cera viridi, pedibus flavis, pectore albo undulato, cauda fuſca faſciata.
The yellow-legged Falco, with a white, undulated breaſt, and a faſciated brown tail.

The Sparrow-hawk.

This is about the bigneſs of a pigeon, but it is conſiderably longer-bodied, in proportion to it's thickneſs: it's wings are long, and, when expanded, meaſure to twice the length of the body and tail: the tail is ſhort, but very ſtrong; it is broad and thick at the baſe, very ſharp at the point, and conſiderably hooked; it is of a bluiſh colour, except at the point, where it is black: the cera or membrane covering it's baſe is of a greeniſh tinge, and in this the bird is very ſingular, it's legs being yellow, whereas, in almoſt all the others, the legs and the cera are of the ſame colour; there is, indeed, ſome faint yellowneſs among the green in this membrane, but the green is evidently the prevailing colour, and it has on each ſide an appendage under the noſtrils, of an angulated figure: the noſtrils are of an oblong figure; the palate is blue; the tongue is large, thick, and blackiſh, and the tip of it is ſomewhat bifid: the eyes are moderately large, and their iris is yellow and bright; they are, as it were, ſunk in the head, or defended by prominent eye-brows.

The head is ſmall, and ſomewhat flatted; it is of a brown colour on the upper part, only that over the eyes, and toward the hinder part, there is ſome whiteneſs, and the bottoms of all the feathers on the top, and on the hinder part of the head, are white: the back, the ſides, and the wings are of the ſame duſky brown colour, except that ſome of the covering-feathers of the wings, which are neareſt the back, are variegated with ſpots of white; ſometimes alſo there is a tinge of greyiſh all over the back, and, in ſome particular birds, the grey is the prevailing colour, but this is leſs common. As the whole upper part of the bird is of this ſimple brown colour, the whole under part, the throat, breaſt, belly, and covering-feathers of the under part of the wings, are variegated with white and brown: there run alternate, undulated, tranſverſe lines of white and a ferrugineous brown, ſo deep, that it in ſome places approaches to black all over the breaſt, throat, and belly: the white lines are much broader than the brown ones, ſo that the white ſeems the ground colour: the feathers, immediately under the baſe of the belly, and at it's angles, are wholly white, except that in their middle, and that principally toward the extremity, they have ſome faint tinge of brown.

The wings, though they expand to a conſiderable breadth, yet, when cloſed, do not reach farther than to the middle of the tail: their long feathers are twenty-four in each, and they are variegated, on the lower ſide toward the middle rib, with ſeveral tranſverſe lines of brown.

The tail is about ſeven inches long; it is compoſed of twelve feathers, and each of theſe is variegated with five or ſix bands of black, and their tips are whitiſh.

The legs are long, and very robuſt; the claws long, ſharp, and black: the legs and feet are yellow, and the toes are bony; the outer toe in this, as well as in ſome other ſpecies, is connected by a membrane to the next, almoſt half way it's length.

This ſpecies is very frequent with us in woods, and ſometimes about ruined buildings. It is a very bold feeder, ſeizing upon almoſt any thing of the feathered kind. It lays five moderately large eggs; they are white, but ornamented, toward the obtuſe end, with a kind of crown, formed of ſmall ſpots of a blood-red colour: all the writers on birds have deſcribed this ſpecies. Geſner calls it Falco Fingillarius; Aldrovand, Accipiter Fringillarius; and Willughby, Accipiter Fringillarius ſive recentiorum Niſus et Sparverius. Some of the writers miſtaking the male and female of this kind as diſtinct ſpecies, Aldrovand calls the male Moſchetus; and Geſner, Accipiter minor mas quem vulgo Niſum ſive Sparverium appellant.

Falco cera flava, dorſo ferrugineo, cauda ruffo et nigro variegata.
The Falco, with a brown back, and a variegated black and brown tail.

The hen-harrier.

This is a conſiderably large ſpecies; it is equal to a well-grown pullet in ſize: the head is ſmall, and ſomewhat flatted at the top: the beak is large, and very robuſt; it is broad and thick at the baſe, very hooked, and extreamly ſharp at the point: the baſe of it is covered with a thick, yellow membrane, in which are ſituated the noſtrils, and toward the angles of it, above the noſtrils, there are a kind of black hairs, reſembling whiſkers; theſe are very rigid and hard, and they all turn forwards: from the hinder part of the head there runs a circle of ſomewhat erect feathers round the ears, and the baſe of the back; the middle part of theſe feathers is of a reddiſh-brown, and their edges are variegated with a paler brown and whitiſh. This circle of feathers is a very ſingular thing, and gives an appearance of a kind of crown to the head of the bird; from this circle of feathers there runs a naked ſkin, which ſurrounds the region of the ears: the back is of a duſky, ferrugineous colour; the edges of the feathers which cover the neck are of a reddiſh tinge; thoſe on the top of the head are of a more ſimple brown, and thoſe on the back part are white at the bottom: there is a white ſpot under the eyes, and the breaſt and belly are of a whitiſh colour, with ſome tinge of brown, and are variegated with long and narrow lines of a pale brown, which run down the middles of the ſeveral feathers.

The middle of the throat is brown, or of a duſky, ferrugineous tinge; the edges of the feathers, however, have all a reddiſh caſt: there are ſome white feathers on the rump, which are all of them variegated toward their middle with a number of round, ferrugineous ſpots.

The wings have each twenty-four long feathers; the exterior verge of theſe is of the ſame colour with the feathers on the back, but their inner part is variegated with tranſverſe black and white lines; in the larger of theſe feathers, the white lines are largeſt; in the more anterior ones, the black are the broadeſt and moſt conſpicuous: the edges of the innermoſt are wholly brown; there is ſome white on thoſe that are next them, but in theſe it degenerates by degrees into brown, till there is no trace of it to be ſeen: the extremities of the exterior feathers of the ſecond order are white, and thoſe of the inner ſeries are reddiſh; the reſt of the feathers are of the ſame colour with thoſe of the back of the bird.

The tail is about eight inches long, and is compoſed of twelve feathers; the extremities of theſe are of a browniſh or ferrugineous colour, with ſome tinge of red in it, and all the reſt of their length they are variegated with tranſverſe lines of this reddiſh-brown and black; but the black lines are much larger than the others, and in the two middle feathers the brown wholly diſappears.

The

The legs are long, very robuſt and yellow, and the claws are very long, ſharp, ſtrong, and black: the middle toe is longeſt, the inner one the ſhorteſt, and the outer one is connected, for nearly half it's length, to the middle one by a membrane: the opening of the mouth is wide, and the ſwallow very large; the tongue is large, broad, fleſhy, and undivided at the extremity, and there is a cavity of the ſame dimenſions in the palate.

We have this ſpecies in ſome of our large woods; I killed two ſome years ago in Charleton foreſt in Suſſex: they feed on all kinds of fowls, and on the leſſer quadrupeds; they will ſeize on young rabbets and hares. It builds in high trees, and lays four, or ſometimes five, eggs; they are large and blotted all over, as it were, with a duſky purple, the white hardly appearing any where through it.

The female of this ſpecies is what we uſually meet with, and is the ſex deſcribed here; the male is ſmaller, and differs much in colour: the head, neck, and back are not of the ferrugineous brown of the female, but of a duſky lead colour, or bluiſh-grey, ſomewhat reſembling that of the wild pigeon, only the feathers on the ſhoulders, which are conſiderably long, have ſomething of this ferrugineous brown: the breaſt is white, but is variegated with a number of tranſverſe lines of brown: the exterior wing-feathers are black, but their tips are grey, and their bottoms white, and the exterior covering-feathers of the wings are of a grey, approaching to that of the back, only paler; and the firſt ſeries of thoſe which cover the under part of the wings have ſome ſpots of brown.

It is not a wonder that the male in this ſpecies, ſo very different from the female, ſhould have been miſtaken for another bird. Aldrovand's bird of prey, which he deſcribes under the title of Palumbo ſimilis, is evidently this; and, indeed, there is an appearance of that author's having made two or three ſpecies out of this, from it's differences in age, ſex, and other accidents: other authors call this ſpecies Pygargus Accipiter and Subbuteo, but both theſe names confound it with others birds. We have two names for it, as if thoſe who gave them had taken the two ſexes for two diſtinct ſpecies. We call the female the *Ringtail*, and the male the *Hen-harrow*, or *Hen-harrier*.

Falco dorſo variegato, cauda albo et fuſco faſciata.
The Falco, with a variegated back, and a brown and white tail.

The Caracara.

This is one of the moſt beautiful of the hawk-kind; it is about the bigneſs of a tame pigeon: the head is ſmall and flatted; the beak is broad at the baſe, but ſhort and conſiderably hooked; it is very ſharp at the point; it is of a duſky bluiſh-brown colour, except juſt at the tip, where it is black: the cera or membrane at the baſe is yellow, and ſomewhat wrinkled, and the noſtrils in it are oblong, and ſtand obliquely: the wings, when expanded, reach to a great breadth, and, when cloſed, they extend to the tip of the tail.

The back is of a pale brown colour, variegated in an extreamly elegant manner in the ſpots of white, and of a gold yellow: the tail is long, and is beautifully faſciated with tranſverſe, broad lines of white and brown, placed in an alternate order.

The legs are long and very robuſt, and are of a bright yellow colour: the toes are long, and the outer one is connected by a membrane, nearly half way of it's length to the middle one: the claws are black, long, and ſharp.

This ſpecies is a native of the Braſils; Marcgrave has deſcribed it under the name of a Milvus. He gives it's Braſilian name Caracara, and it's Portugueſe one, which is Gamiron. Willughby and other writers have copied his name, but we have not had an opportunity of ſeeing any ſpecimens of the bird in Europe; from which more perfect deſcriptions might be formed, than that which we at preſent have from Marcgrave and Piſo.

Falco

Falco pedibus cæruleis, dorſo ferrugineo nigricante.
The blue-legged Falco, with a duſky, ferrugineous back.

The Sacer.

This is a very large, but not a very beautiful, ſpecies; it is of the ſize of a full-grown hen. It is a very ſwift flier, and ſo bold, that there is ſcarce any bird it will not ſeize upon: the head is large and rounded, not like thoſe of the other birds of prey, which have it ſmall and flatted on the crown: the beak is ſhort, but it is very ſtrong; it is broad at the baſe, and hooked at the point; the opening of the mouth is very wide, and the ſwallow remarkably large: the body is long, in proportion to it's thickneſs; and the wings and tail are longer alſo than in moſt other ſpecies: the back is of a deep, ferrugineous colour, with a tinge of black: the breaſt is paler, and the wings and tail are of a middle colour, between that of the back and that of the breaſt: the legs are ſhort, but they are very robuſt; they are of a bluiſh colour: and the toes are long, and the claws very long, black, and ſharp.

It is frequent in ſome parts of Germany, but is not a native of England; it is very miſchievous to the neighbourhoods, particularly where it builds: it will at any time ſeize upon the largeſt domeſtic fowls, and will often kill four or five, before it carries one off; but in the breeding time it will attack young kids and fawns, and, in ſhort, almoſt any thing that comes in it's way; and, if the whole of it's conqueſt be too heavy to be carried, it will take it piece-meal. Moſt of the people who have written on birds have deſcribed it under the name of Falco Sacer.

Falco dorſo livido, pedibus flavo-virideſcentibus.
The greeniſh-legged Falco, with a livid back.

The Haggard-falcon.

This is a large ſpecies; it equals a full-grown hen in ſize: the head is moderately large, but it is ſomewhat flatted at the top, and is narrower toward the beak, and broader from thence to the hinder part: the beak is ſhort, but it is very ſtrong; it is of a bluiſh colour, but very deep, and with ſomewhat of a tinge of olive; it is broad at the baſe, and pointed at the extremity, and is very hooked: the cera or membrane covering it's baſe is of a duſky olive colour: the noſtrils are large and open; the eyes are large, and have a very fierce look, but the part of the head immediately over them is ſwelled out in ſuch a manner, that they ſeem ſunk in their ſockets, or hid under very prominent eye-brows: the neck is ſhort, and of a duſky livid colour, with ſome admixture of brown in it: the ſhoulders are large, and, with the prominence of the tops of the wings, they have an appearance of gibboſity: the back is of a livid or deep greyiſh colour; the breaſt and belly are of a paler grey, and are ſomewhat variegated; the wings are very long; when cloſed, they reach to the tip of the tail, and, when expanded, they meaſure in extent, at leaſt, three times the length of the body: there are uſually a few black ſpots on the wings, and more on the back of this ſpecies, but that is not univerſal.

The legs are long and very robuſt; they are of a duſky greeniſh colour, with an admixture of blue and of yellow, in ſhades: the toes are long, and the claws are very ſharp and formidable.

This ſpecies is caught ſometimes in Germany, and in many other parts of Europe; but it is a bird of paſſage, and we do not know where it breeds. It varies in colour, whence the writers on birds have divided it into ſeveral ſpecies. They have called it Falco gibboſus and Falco peregrinus. It is deſcribed twice in Willughby, and three times in Aldrovand.

Falco pedibus flavis, corpore albo-flavo variegato.
The yellow-legged Falco, with a white body variegated with yellow.

The variegated Falcon.

This is one of the moſt ſingular and beautiful birds of the Falcon-kind; it is of the ſize of a moderately-grown pullet: it's head is ſmall, narrow toward the beak, broader behind, and flatted on the crown: the beak is ſhort, but very robuſt; it is broad at the baſe, very much hooked, and terminated by a very ſharp point: it is of an extreamly pale colour, a whitiſh, with a caſt of bluiſh and of yellow, except that at the point it is black: the back, and the breaſt, and belly alſo alſo are of a whitiſh colour, but they are all over ſpotted with a pale and very faint yellow: the tail is compoſed of twelve large feathers; they are white, and are ſpotted with the ſame pale yellow with the body; but the wings, which are very long, and reach nearly to the extremity of the tail, when cloſed, are of a perfect beautiful white, without the leaſt appearance of any ſpot at all.

The legs are moderately long, and very robuſt; they are of a ſtrong and deep yellow, and the toes are long, and the claws very long and ſtrong, and black: the cera or membrane covering the baſe of the beak is yellow, and the noſtrils are oblong and tranſverſe: the iris of the eye alſo is yellow, and the look is very bold and piercing.

This is a native of Italy, and is a very bold and miſchievous bird: it lives principally in thick woods, where it feeds on young hares, rabbets, and other the ſmaller quadrupeds, as well as on birds of all kinds; it ſometimes takes up it's habitation near the villages, and is then very troubleſome to the inhabitants, ſparing hardly any thing that is incapable of defending itſelf. Aldrovand, Jonſton, Willughby, and others have deſcribed it under the name of Falco albus.

Falco pedibus flavo-vireſcentibus, dorſo nigreſcente.
The black Falco, with yellowiſh-green legs.

The Tree-falcon.

This is a ſmaller ſpecies than many of the former, but it is as bold and deſperate as any of them; it is about the ſize of a large tame pigeon: the head is ſmall and flatted; the beak is broad at the baſe, moderately hooked, and very ſharp at the point, and the upper part of it is much longer than the under: the cera or membrane covering it's baſe is of a mixt colour of yellow and green, which ſhew themſelves variouſly in different lights, but the beak itſelf is bluiſh.

The head is of a deep iron grey, and the back is almoſt black, but the edges of many of the feathers have a circular verge of a ferrugineous tinge round their extremities.

The tail is compoſed of twelve large feathers, they are almoſt black, and a little ſpotted, except the two middle ones; and the wings are alſo black, only that on that part neareſt the body the feathers have ſome of them a number of ferrugineous ſpots: the breaſt is beautifully variegated with black and white ſpots; and on the ſides of the head, as alſo toward the upper part of the breaſt, there are ſome yellowiſh feathers, which add very ſingularly to the variegations.

The eyes are large and black, and have a remarkably bold and fierce look; the bird itſelf has, indeed, in it's whole appearance, a peculiar boldneſs of aſpect: it ſtands more firm and erect than any other ſpecies, and is uſually ſeen on the topmoſt bough of ſome tall tree, taking a ſurvey of every thing about it, and ready to drop on, or riſe to it's prey.

This is a native of Germany, but it is leſs frequent than moſt of the other ſpecies; it is a very bold bird in it's manner of feeding. Moſt of the ornithologiſts have deſcribed it. Ray and Willughby call it Litho-falco, Dendro-falco, ſeu Falco Lapida-

rius et Arborarius. Theſe are the names under which Geſner, Aldrovand, and others have deſcribed it; but moſt of thoſe writers have made two ſpecies of it, not conſidering the conſtant difference in ſize between the males and females in the birds of prey, and the ſlighter variations in colour. This ſpecies builds in great abundance in the Hartz-foreſt, where it is common to ſee the male and female together on that occaſion; and any one who does ſo, will be convinced of the error of thoſe who have made them two ſpecies. It lays four eggs of a duſky greyiſh-white, variegated, principally toward the larger end, with irregular blotches of purple. It is at all times a bold feeder, but in the time of breeding is more than ordinarily ſo, and will ſeize on the largeſt birds, and on the young of quadrupeds.

Falco pedibus flavis, corpore fuſco, capite majore.
The large-headed Falco, with a brown body, and yellow legs.

The Barbary-falcon.

This is of the ſize of a pullet, but it's body is ſlender, in proportion to it's length, and it ſtands very erect, and has at once an elegant and majeſtic appearance: the head is large and rounded: the beak is large, robuſt, and very much hooked; it is of a duſky horn colour, with a tinge of bluiſh all over, except at the point which hangs over the under chap, and is very hard, ſharp, and black: the membrane that covers it's baſe is yellow and wrinkled, and the noſtrils in this are large, oblong, and placed obliquely: the eyes are very bold and fierce in their aſpect; the iris is yellow, the pupil black, and the part of the head immediately over them is prominent, ſo as to make them appear ſunk in their ſockets: the colour of the head is a duſky brown of the ferrugineous tinge, but with ſome admixture of a deep grey or lead colour, eſpecially in the hinder part; for toward the beak, and eſpecially about the region of the ears, it is paler: the back is of the ſame duſky brown, with a tinge of the ferrugineous hue, and an admixture of grey: theſe three colours are not ſeparate in variegations, but are all blended in every feather, ſo as to form a different tint from all three in the whole, and they are rather diſtinguiſhable in different lights than any other way: the tail is compoſed of twelve large feathers; they are darker, or have more of the unmixed grey, than the feathers of the back, and the two middle ones are darker than the other ten.

The wings are very long; when extended, they meaſure, at leaſt, three times the length of the body, and, when cloſed, they reach very nearly to the tip of the tail: the long feathers in theſe are almoſt black, and have no variegations, except that the inner ones, or thoſe next the body, have ſomewhat of a ferrugineous caſt on their inner ſide: the feathers that cover the upper ſide of the wings are of the ſame colour with thoſe of the back; and thoſe which cover the under part of them are paler, and have ſome variegations of whitiſh and yellowiſh, eſpecially toward the edges.

The breaſt is paler than the back, but is of the ſame general colour, only it has ſome dark variegations: the belly is yet paler than the breaſt; and, juſt at the origin of the tail, there are ſome pale brown feathers, variegated with white.

The legs are very robuſt, though not very long; they are of a duſky yellow, and toward the feet they have ſome admixture of greeniſh or olive colour: the toes are long, and the claws are very ſtrong, and remarkably long and ſharp; they are black, and that of the hinder toe is much longeſt.

This is a native of Africa, but it is a bird of paſſage, and is ſometimes ſeen in Europe. Moſt of the writers on birds have deſcribed it under the name of Falco Tunetanus. The male is ſomewhat different in colour from the female here deſcribed, and is ſmaller; but the difference is leſs than in moſt other of the birds of prey.

Falco

Falco ſupine rubeſcens pedibus flavis, capite depreſſo.
The yellow-legged, reddiſh Falco, with a flatted head.

The red Indian Falcon.

This is a very large and an extreamly beautiful ſpecies; it is equal to a well-grown pullet in ſize, but it's body is ſlender, in proportion to it's length, and it has a way of ſtanding in a remarkably erect manner.

The head is very ſmall, in proportion to the ſize of the bird, and it is remarkably flatted on the crown: moſt of the birds of prey have the head ſomewhat flatted, but this more than all; the hinder part is very broad, but there is not the leaſt appearance of any eminence or riſing in it: the feathers which cover the head are of a greyiſh colour, with a faint admixture of brown, and thoſe on the back of the neck are of the ſame tinge: the beak is remarkably large and ſtrong; the baſe is broad, and on the upper part it is ſomewhat prominent: the point is extreamly hard, firm, and ſharp, and bends a conſiderable way over the lower chap: the colour of the beak is a greyiſh-blue, with a tinge of horn colour, and the cera or membrane that ſurrounds it's baſe is yellow, wrinkled, and has the noſtrils in it; they are large, patulous, and ſtand obliquely: the eyes are large, and look very fierce; their iris is brown, and the pupil black, and the membranes of the eye-lids are yellow at the edges; and, from the leſſer canthus of each eye, there is continued a beautiful oblong red ſpot.

The back and the upper part of the wings are of the ſame colour with the head, only a little darker; but the breaſt, the belly, and the upper part of the under ſurface of the wings are of a beautiful red; the rump alſo is of this elegant colour, as are alſo the feathers which cover the thighs.

The throat is of the ſame elegant red colour, but it is variegated with a beautiful, oblong ſpot, of a dark grey; and in ſome birds the breaſt has ſome variegations of the ſame colour, in form of irregularly oblong ſpots; but this is not univerſal, many having not the leaſt ſpot there. The ſides where they are covered by the wings are not of this high colour, but of a duſky grey.

The wings are very long. When cloſed, they reach to the extremity of the tail, and, when expanded, they meaſure three times the length of the body: the tail is long, and is compoſed of twelve feathers; theſe are very large and firm, and are beautifully variegated with alternate circles, or parts of circles of black and grey.

The legs are very robuſt, but not remarkably long; they are yellow: the toes are long and ſtrong, and the claws are black, and are remarkably ſharp and formidable.

The male of this ſpecies is conſiderably ſmaller than the female; the colours are fainter, and it has not that ſpot on the throat, which is ſo ſingular in the female, and the legs are of a paler yellow.

This beautiful ſpecies is a native only of the Eaſt Indies; it builds in the thickeſt woods, and is very ſhy, but it is a bold feeder both on birds, and on the ſmaller quadrupeds. Aldrovand has deſcribed it under the name of Falco ruber Indicus; and moſt of the writers who have ſucceeded him, have borrowed his name, and his deſcription. We ſometimes ſee rude delineations of it in the Chineſe pictures; and ſpecimens of the bird are ſometimes, though rarely, brought over, as curioſities, by the Captains of our Eaſt India ſhip.

Falco capite cirrato.
The Falco, with a cirrated head.

The creſted Falcon.

This is an extreamly beautiful ſpecies; it is of the ſize of a well-grown pullet: the head is ſmall and flatted, and of a deep black, and is ornamented with a creſt of long feathers, which hang down behind it; the outer ones of theſe are longer than thoſe

thoſe in the middle, ſo that it appears forked: the breaſt and belly are variegated, and extreamly beautiful; the colours are black and white, and they are diſpoſed in alternate, tranſverſe lines, or oblong ſpots, and both are extreamly bright and gloſſy colours: the back is black.

The eyes are large, and have an extreamly piercing aſpect; their iris is yellow, and the pupil black: the beak is of a deep bluiſh-black; it is very broad at the baſe, extreamly hooked, and the point or extremity of the upper chap or portion, which hangs to a conſiderable diſtance over the other, is black: the membrane which ſurrounds the baſe is yellow, and ſomewhat wrinkled; the noſtrils are conſpicuous on it; they are oblong, and placed tranſverſely.

The legs are moderately long, and very robuſt; they are feathered down almoſt to the toes: the feet are yellow, and the toes are very long and large: the claws are black, long, and ſharp; the leſſer wing-feathers are fringed, as it were, with white at their edges: the tail is long and broad, and is elegantly variegated with alternate rows of grey and black; all the reſt of the bird is black.

This elegant bird is a native of the Eaſt Indies; the foreſts in China, and ſome parts of Tartary, alſo afford it: we have ſometimes had it brought over alive to us, but rarely. Ray mentions one of them kept alive in London; and I remember to have ſeen one at the late Duke of Richmond's, among his collection of living animals, at Goodwood. Ray, in his edition of Willughby's Ornithology, calls it Falco Indicus cirratus.

Falco cera lutea, dorſo nigricante, ventre rufo.
The black-backed, brown-bellied Falco, with a yellow cera.

The Hobby.

This is a large and a very bold bird; it's ſize is about that of the pheaſant, but it's wings are ſo long, that, when extended to the full, they meaſure more than two feet and a half.

The head is ſmall, and ſomewhat flatted on the crown; the beak is ſhort, and ſo extreamly hooked, that it appears of a kind of ſemicircular figure: it is of a bluiſh colour, except toward the upper part, where it becomes whitiſh: it's baſe is covered with a yellow membrane, which is tolerably ſmooth, and in which the noſtrils are conſpicuous; they are large, oblong, and tranſverſe; the extremity of the upper chap falls a great way over the lower, and is very hard, ſharp, and black: on each ſide alſo, at the angle of the beak, there is on the upper chap an appendage or denticle, which is received into a hollow in the under one: the opening of the mouth is large; the tongue is large, thick, fleſhy, and blackiſh: the palate alſo is black, and there is a hollow formed in it for the reception of the tongue: the tip of the tongue is ſomewhat bifid; the eyes are large, and their iris is hazel; the eye-lids are black.

Immediately over the eyes there runs a line of a whitiſh-brown, and the reſt of the head is variegated with black, and a bright cheſnut colour; the ſcapi of the feathers being all of the former, and their edges of the latter colour: the feathers on the neck are of the ſame whitiſh-brown with thoſe which make the two lines over the eyes: the back and the upper part of the wings are of a very deep iron grey, approaching nearly to black, and in ſome are abſolutely black: the middle part of the back and the largeſt of the wing-feathers are the more intenſely black; the rump and the ſmaller wing-feathers are more grey: the throat is of a yellowiſh-white, and there run from the head to this part two oblong, white ſpots on each ſide, one from the aperture of the mouth, and the other from the hinder part of the head: the lower part of the belly is of a reddiſh-brown, and all the intermediate part is elegantly variegated; the feathers being black in their middle, and white at the edges: the feathers which cover the thighs or upper part of the legs are of a reddiſh-brown, ſpotted with ſmall, irregular, and not very numerous ſpots of black.

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The long feathers in the wings are twenty-four to each: of theſe the ſecond is the longeſt; the larger feathers have their extremities blackiſh, and all the others have variegations of black and white along the ſcapi: theſe are more numerous and conſpicuous in the inner feathers, and in ſome birds they are almoſt wholly wanting in all: the ſhort feathers that cover the under parts of the wings are black, and are beautifully variegated with little round white ſpots.

The tail is not very long; it conſiſts of twelve feathers; the middle two are the longeſt, the others grow gradually ſhorter to the edges, but the decreaſe in length is but inconſiderable: the middle ones are of the ſame colour on each ſide of the ſcapus or ſtem; but the others are variegated with oblong ſpots of a reddiſh-brown toward the inner part, and are white at their extremities.

The legs are long and very robuſt, but they are yellow: the toes are long, and the claws very ſharp: the outer toe is connected to the middle one, by a membrane toward their baſe.

The liver is large, and the gall-bladder, as in all other birds of prey, is remarkably large alſo: the appendages to the inteſtines are ſhort.

This is a bird of paſſage; it comes over to us in April, and builds with us, but it leaves us again about September. It builds with us in high trees, uſually in the midſt of thick woods, but ſometimes in ſingle ones, on hills, and in hedges. It is a bold feeder, and will at times ſeize on almoſt any thing, but ſmall birds and particularly larks ſeem it's favourite prey. We have people who make a trade of catching larks by means of this bird; they call it daring of larks: the ſight of the hawk makes them lie ſo cloſe, that the nets are eaſily drawn over them.

The antients were acquainted with this ſpecies. The Greeks called it Ὑποτριόρχις, Hypotriorchis; and the Latins, Buteo minor. Some of our writers, as Ray, Willughby, and others call it Subbuteo, but this confounds it with another ſpecies already deſcribed.

Falco pedibus flavis, dorſo variegato, pectore albo ferrugineo.
The yellow-legged Falco, with a variegated back, and a brown and white belly.

The Merlin.

This is a very ſmall and a very beautiful hawk: Bellonius calls it the leaſt of all the birds uſed in hawking, and, excepting the lanius, it is ſo: it is not much larger than a thruſh.

The beak is ſhort, broad at the baſe, and very hooked and ſharp at the point: it is of a bluiſh colour all the way, except at the extremity of the upper chap, where it falls over the other, and there it is black and very ſharp: it has alſo, in this portion, an appendage or denticle toward the baſe on each ſide, received into a hollow in the lower chap.

The head is ſmall, and flatted on the crown: the eyes are large, and have a very piercing look; they ſtand forward; their iris is hazel, and the pupil black: under the back part of the head there runs a kind of chain of a yellowiſh or reddiſh-brown; the throat is white.

The back and whole upper part of the body are of a duſky hue, but, when nearly viewed, it is found to be variegated with three diſtinct colours; theſe are a deep, duſky, ferrugineous brown, a deep greyiſh-blue, and an abſolute black; and the middle of all the feathers, both on the head and back, are black, that colour following the courſe of the ſcapi or ſtems in all; the external edges in moſt are fringed, as it were, with a very ruſty orange colour, or a ferrugineous brown: the long feathers of the wings are black, but they are variegated with ferrugineous ſpots: the tail is long,

and is elegantly variegated with zones, or broad tranſverſe lines of black and a brownish-white; there are ſometimes fourteen of theſe in the whole tail.

The breaſt and belly, or indeed the whole under part of the bird, from the throat to the inſertion of the tail, is of a pale whitiſh-brown, with a ſlight tinge of the ferrugineous reddiſh, and is ſlightly variegated with ſpots of a blackiſh-brown; theſe are not very numerous, and they ſtand in a longitudinal, not a tranſverſe, direction, ſeeming to follow the courſe of the feathers.

The legs are leſs robuſt than in moſt of the birds of prey; they are long, ſlender, and of a yellow colour: the toes alſo are long and ſlender, and the claws are long, black, and ſharp.

The male in this ſpecies, as in all the other birds of prey, is conſiderably ſmaller than the female, and it is alſo diſtinguiſhed by ſome blue feathers on the rump, which are wanting in the female: the back of this bird loſes all it's variegations by age, and becomes ſolely of a duſky bluiſh colour; this is an incident that happens more or leſs to all the Falco kinds, as they grow old, but it is in none of them ſo conſpicuous as in this little ſpecies.

Though this is one of the ſmalleſt of the birds of prey; it is as bold as any of the larger: it will attack almoſt any thing, but the partridge is it's favourite prey: it will fly at a whole covey of theſe, and deſtroy quicker than any other hawk.

It is a native of England; it builds with us in woods, and ſometimes in hedges. All the writers on birds have deſcribed it; Aldrovand, and after him moſt of the modern writers, call it Æſalon and Æſalus, ſuppoſing, though with no great certainty, that it was the Æſalon of the old Romans.

Falco pedibus flavis, dorſo fuſco, pectore albo lineolis nigris variegato.

The yellow-legged Falco, with a brown back, and a white variegated breaſt.

The Gos-hawk.

This is a large and a very beautiful bird; it is bigger than the common buzzard, and is very like it in ſhape: the head is ſmall and flatted: the beak is ſhort, but very broad at the baſe, and extreamly hooked; the point of the upper chap hanging over the lower, and very ſharp: the eyes are extreamly ſharp and piercing, and the noſtrils are roundiſh.

The upper part of the head and neck, the back, and, in ſhort, the whole upper part of the body, is of a deep duſky brown, not unlike that of the buzzard; but the breaſt and belly are very beautiful: they are of a ſnow-white, and are elegantly variegated with narrow, oblong, and undulated lines of black, diſpoſed in a regular and a very beautiful manner.

The legs are very robuſt, moderately long and yellow: the toes are long, and the claws are very long, black, and ſharp: the beak is of a blackiſh colour, and the membrane that covers it at the baſe is of a yellowiſh-green: the wings are ſhort; they do not reach, when cloſed, to more than half the length of the tail: this is a ſingularity which diſtinguiſhes the Gos-hawk, at firſt ſight, from all the other ſpecies.

The tail is long; it is of a greyiſh-brown colour, and is variegated with three obſcure zones, or tranſverſe ducts, placed at a great diſtance from one another.

This is a very bold bird; it feeds on pheaſants and partridges, but it will fly at any thing: the heron makes admirable diverſion for the hawkers, under an attack from this bird: it may alſo be taught to attack wild geeſe and hares. The French cell this ſpecies Antour, and their Latin writers, Aſtur; Aldrovand, however, declares that

that the Aſtur of the French writers is the ſame with the Aſteria of the old Greeks, mentioned by Ariſtotle, and different from our Gos-hawk: there is not much to be built upon this, however, when we conſider that Aldrovand, as is evident from his deſcription, knew little or nothing of the Gos-hawk. It breeds with us in woods, and is extreamly bold in the defence of it's young. I remember to have ſeen a ſervant, whom I employed to take a neſt of them in Rockingham foreſt, attacked with the utmoſt fury by both the old ones, and wounded in the face, while he was up in the tree, and had but little uſe of his hands for his defence. All the writers on birds have named it. Willughby, Ray, and the reſt call it Accipiter Palumbarius.

Falco dorſo cinereo, ventre albo variegato, pedibus nigris. The black-legged Falco, with a grey back, and a white variegated belly.

The Butcher-bird.

This is the ſmalleſt of all the birds of prey, uſed by the falconers; it is not quite equal to the black-bird in ſize, and is ſmaller than the merlin, though Bellonius calls that the ſmalleſt ſpecies: the head is ſmall and flatted; the beak is moderately long, and very broad at the baſe; it is moderately hooked at the point, and the extremity of the upper chap hangs over the lower, and is hard and black, and very ſharp: toward the baſe of the beak alſo there are two appendages, one on each ſide, and there is a hollow in the lower chap for the reception of each of theſe: the tongue is ſlender, fleſhy, and bifid at the end; the palate has a cavity formed for the receiving it: the noſtrils are roundiſh, and over them there are placed a number of ſhort and rigid ſetæ or briſtles, in manner of whiſkers: on each ſide, from the angles of the mouth to the hinder part of the head, there runs an oblong black ſpot; the reſt of the head is a pale grey.

The back, the upper part of the wings, and the rump, are of a darker grey than the head: the belly is white, and the breaſt and throat are alſo white, and are variegated with oblong, duſky ſpots, running in a tranſverſe direction.

The long wing-feathers are eighteen in each; all theſe, except the four exterior ones, are white at the extremities, and the ſecond and third have their exterior edges white: the bottom of the very firſt feather alſo has a little white on it, and from this the white is more and more conſiderable on all the others to the tenth, in which it occupies more than half the feathers; from the tenth feather the white part decreaſes again in all the others, but on the interior ones it is extended along the edges, quite to the extremities: on thoſe which are neareſt the body there is not any white at all; the large wing-feathers, as well as thoſe of the tail, are elſewhere black.

The tail is moderately long, and is compoſed of twelve feathers; the two middle ones are the longeſt of theſe, and the others grow gradually ſmaller to the exterior ones; but the decreaſe in length is but very little, till toward the very outer ones, but theſe are only a fourth part ſhorter than the middle two: the two exterior feathers are entirely white; the two middle ones are white at the tips, and the others are black throughout, but the black is deeper in the middle than in the exterior ones.

The legs are moderately long; they are ſlender and black: the toes are long and black, and the claws, though not very robuſt, are long, and extreamly ſharp and black: the gall-bladder is large in this bird, and the teſticles are very ſmall and round.

This ſpecies is frequent in Germany, and ſome other of the northern parts of Europe; it has been doubted whether it was a native of England, but that is a queſtion I can anſwer in the affirmative, having ſhot more than one of them in Rockingham foreſt in Northamptonſhire. I have ſeen it alſo in Yorkſhire; but it is no where very plentiful, and is always very ſhy, ſo that it is not a wonder many have overlooked it. It may be known ſitting from almoſt all the other hawks; for it generally holds it's tail erect, and, as they are fond of the talleſt trees, whence they can look down on the country for a great way round, and keep themſelves concealed all the time under the

the boughs, this, on the contrary, uſually takes it's poſt on the tops of a ſhrub or furz-buſh.

It builds in the midſt of thickets, in the moſt inner receſſes of our thick woods: it's neſt is formed of moſs, wool, and ſmall ſtems of hoary herbs, and it lines it firſt with the ſofter branches of the common erica or heath, and over theſe with the leaves of ſoft and tender plants. It lays ſix eggs, and the young ones, while in the neſt, carry very little reſemblance of the parents, except in the beak and legs: their feathers, which indeed are properly no more than the rudiments of future feathers, are green toward the baſe, and the whole birds have a duſky olive tinge.

It feeds on beetles and other large inſects, but not on theſe only; it will ſeize on any bird that is not greatly larger than itſelf: the thruſh ſeems it's moſt capital prey, but from this downward nothing eſcapes it: there is a peculiar cruelty alſo that it is guilty of, which is the taking the young out of the neſts of other birds. Moſt of the writers on birds have deſcribed it. Ray, Willughby, and others call it Lanius cinereus major; and we, in the North of England, the Wierangle, a name borrowed from the German one Werkangel or Warkangel. The Germans alſo, about the Hart's-foreſt, where it is very frequent, call it Neghen-doer, a word expreſſing it's great fierceneſs, that it will kill nine birds, before it begins to eat of one of them, but with us it is not ſo terribly miſchievous.

Geſner mentions what he calls a larger ſpecies of this bird, and names it Lanius cinereus maximus; he ſays, it is in all things like this, only that it is larger: probably, this was no more than the difference between male and female, or ſome other as trivial error.

Falco pedibus cæruleis, capite nigreſcente, dorſo ferrugineo.

The blue-legged Falco, with a black head, and a ferrugineous back.

The leſſer Butcher-bird.

This is a very ſingular and a very beautiful little bird, though a perfect hawk in all it's characters; it is not larger than a lark: the head is large, rounded, and not at all like thoſe of the generality of theſe birds: the beak is large, in proportion to the ſize of the bird; it is broad at the baſe, and very hooked at the point: the upper chap is much longer than the under; it's hooked extremity turns over that, and it has near this part two pointed appendages or denticles, which are not received into cavities, or hollows formed for that purpoſe in the lower chap, but hang over it: the noſtrils are round; the inſide of the mouth is yellow: the tongue is divided into many parts at the extremity, and the palate has a cavity to receive it, which is hairy on each ſide, as well as the tip of the tongue: there are about the angles of the beak certain rigid briſtles or hairs, which ſerve as whiſkers.

The middle of the back, and the middle ſeries of the feathers which cover the wings, are of a deep duſky, ferrugineous colour: the head and the rump are black; from the angles of the beak there runs beyond the ears a black line on each ſide, of a deeper colour, and more gloſſy than any other part; this is conſiderably broad, and is terminated at the edge by a white line: the throat and the breaſt are of a very pale, ferrugineous colour, almoſt white; the lower part of the belly is abſolutely white.

The long wing-feathers are eighteen in each; the firſt or moſt exterior of theſe is very ſhort and little; the third is longer than any of the others, and from this they gradually become ſhorter and ſhorter to the innermoſt, but the diminution in length is very ſmall in each: the whole wing is not very long; it ſpreads to a conſiderable extent, in proportion to the bulk of the bird, when opened; but, when cloſed, it is not ſo long as the tail: the larger feathers are brown; the ſmaller, that are neareſt the body, are of a reddiſh-brown, and the others have their middle black.

The

The tail is moderately long, and is compoſed of twelve feathers; the exterior of theſe are the ſhorteſt, and the others grow gradually longer to the middle: the two middle ones are almoſt entirely black, and the next to theſe have ſome whiteneſs toward the baſe, eſpecially at the interior edge; four of the others on each ſide are white at their extremities, and even half way up, and the interior pinnules of the farther ones are alſo entirely white.

The legs are moderately long, but very ſlender; they are of a deep greyiſh-blue, approaching to black: the toes are long, and the outer one of each foot is connected a little way to the middle one by a membrane: the claws are not very thick, but they are long, in proportion to the ſize of the bird, and are very ſharp.

The gall-bladder in the bird is particularly large; the inteſtines are ſhort; the teſticles in the male are large, round, and white.

This ſpecies is not uncommon with us in England, though it's ſmallneſs makes us ſeldom diſtinguiſh it as of the hawk-kind. It frequents woods, and is ſometimes ſeen among the ſingle thickets on heaths: it builds in the crab, the white-thorn, or the holly, at about ſix or eight feet from the ground: it builds it's neſt with graſs, moſs, the ſtalks of tender plants, and feathers. It lays ſix eggs; they are of an oblong ſhape, and are large, in proportion to the ſize of the bird; they are white toward the ſmaller end, but toward the larger they have a kind of circle or crown of browniſh or purpliſh ſpots.

Moſt of the writers on birds have deſcribed this ſpecies. Ray and Willughby call it Lanius minor, and the leſſer Butcher-bird; Aldrovand, Lanius tertius; and others, Lanius tertius Aldrovandi. We call it, in the North of England, where it is more frequent than in any other part, the Fluſher.

Falco pedibus nigris, capite rufo, dorſo variegato.
The black-legged Falco, with a brown head, and variegated back.

The leaſt Butcher-bird.

This is the ſmalleſt of all the hawk-kind; it is not much larger than a ſparrow, but it is a bold looking bird, and even a bold feeder: the head is ſmall, but it is not flatted, as in many of the hawk-kind, but rounded: the beak is large, in proportion to the ſize of the bird; it is broad at the baſe, and prominent on the upper part; the extremity of it is very hooked: the upper chap is much longer than the under, and the hooked extremity, which turns over it, is very ſharp; it is of a dark bluiſh-black toward the baſe, and at the extremity it is quite black: the cera or membrane ſurrounding the baſe of it is of a deep gloſſy, lead colour; and the noſtrils, which are ſituated in this, are ſmall and round: the tongue is divided at the end, and there is a cavity in the palate fitted to receive it.

The head is of a duſky brown, with a tinge of the ferrugineous in it; the back is alſo of a reddiſh-brown, and is elegantly variegated with tranſverſe lines of black: the feathers of the rump are of a more reddiſh tinge than any of the others, and they are variegated with ſemicircular ſpots of yellowiſh: the throat and breaſt are of a pale colour, but they alſo are variegated in an extreamly elegant manner, with ſemicircular lines or ſpots of a deep black: the lower part of the belly is entirely white.

The long feathers of the wings are brown; but thoſe which are neareſt the body, and all the covering feathers, have their edges of a reddiſh-brown.

The tail is of a very deep, ferrugineous brown, approaching to black, but the exterior feathers have the pinnules on the outer ſide of the rib entirely white; the four ſucceeding ones on each ſide are white at the extremities, and the two middle ones are entirely of a reddiſh-brown.

This ſpecies is not uncommon with us in Yorkſhire, and is eaſily known from the other ſmall birds, by it's being always ſingle, and uſually avoided; ſometimes hunted, and followed by them with a great noiſe. The male is a little ſmaller than the female, but the difference is inconſiderable: the neſt is formed of dry ſtalks of graſs and feathers: the eggs are five or ſix; they are of the ſhape of a hen's egg, and of a duſky browniſh-white, ſpotted all over it in an irregular manner with purple.

This has hardly been exactly diſtinguiſhed by any of the writers on birds. The Lanius ſecundus of Aldrovand comes neareſt it; but either it is not the ſame, or the author has not been over accurate in the deſcription. Ray and Willughby have deſcribed a female of it, which they call Lanius fœmina ſimilis ſecundo Aldrovandi.

Falco pedibus ſubcæruleis, dorſo cinereo et ruffo, pectore pallide fuſco.

The blue-legged Falco, with a grey and brown back, and a pale, brown breaſt.

The Italian Butcher-bird.

This alſo is an elegant little hawk; it is about the ſize of a lark, but is longer-headed: the head is ſmall and flatted on the crown: the beak is large, in proportion to the ſize of the bird; it is broad at the baſe, and very ſharp at the point: the cera or membrane covering it next the head is of a greyiſh-blue; the noſtrils are ſomewhat oblong, and ſtand obliquely: the upper part of the beak is ſomewhat gibboſe, and the hooked part at the extremity is formed of an elongation of the upper chap, falling over the extremity of the under one.

The head is of a pale reddiſh-brown: the ſhoulders and upper part of the back are of a ferrugineous brown, and the lower part, toward the rump, is greyiſh; it becomes paler and paler, as it goes lower, and the rump itſelf is white: there are ſome brown tranſverſe lines under the throat, and all the reſt of the under part of the whole breaſt and belly are of a whitiſh-brown, the breaſt ſomewhat darker, and the belly paler.

The feathers of the wings are only eleven in each; they are all of them of a duſky colour, but the exterior ones have the half next the body white: the tail is moderately long, and is of a deep brown, with a tinge of grey. Theſe are marks, by which this little hawk may be diſtinguiſhed with great readineſs and certainty from all the other kinds; but there is another yet more ſtriking; this is, that it has a large and more beautiful ſpot of ſnow-white on the ſhoulders. The male and female in this ſpecies differ conſiderably, but this always remains in both, and is an eſſential and obvious mark of the ſpecies.

It is a native of Italy, and of the South of France, but it is not known in England; I have been favoured with two or three ſpecimens of it from Italy. Aldrovand ſeems to have meant this ſpecies by his Lanius minor primus, but his deſcription is imperfect. Ray and Willughby had both met with it: Ray mentions ſome variation in the colour of that which he ſaw, from that deſcribed by Willughby; but this was only that Ray's was a male, and Willughby's a female; they make a queſtion whether it be the ſame with that deſcribed by Aldrovand, and have named it Lanius, an minor primus Aldrovandi.

In the male, according to Mr Ray's deſcription, the head and neck had more of the reddiſh-brown about them, and were of a deeper colour; and Willughby mentions one ſhot on the banks of the Rhine, the upper part of the head of which was perfectly reddiſh, with very little brown, and the tail ſurrounded with a line of white. All this is no more than the variations of the male from the female of the ſame ſpecies, and that of the different ſeaſons nearer to, and more diſtant from, the time of moulting.

This bird, though very ſmall, is a very bold feeder, and flies very ſwiftly. It is often ſeen perched on ruined buildings, or on ſhrubs, in leſs frequented places; and frequently

frequently is obſerved on the wing many hours together, about the ſhores of rivers and lakes, preying on the ſmall birds that frequent thoſe places, for the ſake of the inſects about them.

VULTUR.

THE Vultur has four toes on each foot, and three of theſe are placed forward, only one backward: the neck is long and almoſt bare of feathers, and the legs are covered with feathers down to the feet, or nearly ſo, and under the throat there is a ſpace covered with hair inſtead of feathers: the head alſo, in many ſpecies, is naked, or has, at the utmoſt, only a downy matter on it, inſtead of feathers, and the under part of the wings is downy.

Vultur cinereo-nigreſcens cauda brevi.
The greyiſh-black Vultur, with a ſhort tail.

The black Vultur.

This is a very large, but by no means a beautiful, bird; it's aſpect is at once terrible and diſtaſteful; it is of the ſize of a full-grown turkey: the head is large, and of a pale colour, approaching to whitiſh; there are no feathers on it, but in their place there is a kind of downy or woolly matter: the eyes are very large and piercing: the beak is extreamly large, long, and formidable; it is not arched all the way as in moſt birds, but it runs ſtraight from the head, almoſt to the extremity, where it turns round, and is very hooked; it is of a duſky, olive colour.

The opening of the mouth is large, and the noſtrils are oblong and tranſverſe: the neck is long, robuſt, and thick; and it is alſo naked: at it's lower part there is a large tuft or fringe of a woolly matter of a hand's breadth, and of a pale colour.

The back, and the upper part of the wings, are of a deep colour, approaching to black; the breaſt is of a paler hue, approaching to a deep iron grey, or of a mixt appearance between that and a mouſe-colour; the belly is ſtill paler: the long feathers of the wings are of a deep mouſe colour, almoſt black: their under part is ſomewhat paler, eſpecially toward the interior edge; the under ſurface of the upper part is woolly, and of the colour of the tuft at the throat.

The legs are very robuſt and ſtrong; they are feathered in a beautiful manner very low, almoſt to the toes: the feet have an appearance of peculiar ſtrength, and the claws are very ſharp and terrible: the tail is compoſed of very large feathers, but it is not long; the wings are of a very great length; when cloſed, they reach to the extremity of the tail, or very near it; and, when opened, they expand to a ſurpriſing breadth: the colour is the ſame dark one with that of the long feathers of the wings, or rather more black than thoſe.

This is a very bold feeder, and is ſo ſtrong, that it is able to ſeize upon the young of the larger quadrupeds: it had been an opinion of the old writers, that the Vultur never killed any thing, but fed only on the carcaſſes of what it found dead, but that is found to be an error: it ſeizes on birds of almoſt all kinds, and on fawns, young kids, and many other animals. It was alſo an opinion of the old writers, that no birds of prey were gregarious. Ariſtotle declares them all ſolitary, but this alſo is an error: I have already obſerved, that the common kite is in ſome places ſuch; and the Vulturs of this ſpecies are ſcarce ever ſeen, except in large flights.

It is a native of many parts of the Eaſt, but it is not known in the colder countries: moſt of the writers on birds have deſcribed it. Bellonius and Geſner call it Vultur cinereus; and Aldrovand, Vultur niger; we very rarely ſee it in Europe. The Duke of Richmond had two in great perfection among his living curioſities at Goodwood.

Vultur

Vultur corpore caſtaneo, cauda brevi.
The cheſnut-coloured Vultur, with a ſhort tail.

The Baſtic Vultur.

This is a large and noble bird, but it is ſomewhat inferior to the former in ſize; it is about equal, in that reſpect, to a full-grown hen: the head is large, and rounded at the top, not flatted, as in moſt of the birds of prey: the neck is long, and moderately thick; it is not abſolutely naked, as in the former ſpecies, but has, eſpecially on the hinder part, ſome feathers; theſe are not ſhort and broad, as thoſe of the body, but they are long, and very narrow and ſlender, like thoſe on the neck of a cock: they are of a bright brown, with a tinge of reddiſh in it, and are very gloſſy and beautiful: the back is of a fine bright cheſnut colour, and the feathers are remarkably ſhort, broad, and elegantly arranged in the manner of ſcales: the breaſt and belly are covered with larger feathers of the ſame colour and ſhape; but the long feathers of the wings and tail are of a very dark colour, almoſt black: the upper part of the wings is a little paler than the back, and the rump is ſomewhat darker than the upper part.

The tail is ſhort; the wings are very long, and expand to a ſurprizing breadth; they are of a paler colour on the under ſide than on the upper, and are not ſo even and regular at the ends, as thoſe of the birds of prey in general, but have more of the rough appearance of thoſe of the wood-pecker.

The legs are ſhort, but they are extreamly robuſt: they are covered with feathers down to the extremities of the toes, and the whole foot has an appearance of great ſtrength: the claws are long, black, and very terrible: the beak is long, and very robuſt; it is ſtraight all the way, from the head to near the extremity, but there it is turned down and very ſharp.

This ſpecies is a native of ſome parts of Africa, but it is more rarely ſeen among us than the other. None of the Vulturs are wild in this part of the world, but this is ſo tender, that it is not to be kept alive by art. I ſaw one expoſed for a ſhow in London, about four years ſince, but it was then dying. It is a very bold feeder, but it's prey is principally the larger birds, not any thing of the quadruped kind; it is uſually ſeen ſingle. Moſt of the writers on birds have named it: they call it Vultur fuſcus, and Vultur Bœticus, from it's colour, this being a term very frequently uſed among the naturaliſts, to expreſs that kind of brown which we uſually diſtinguiſh by the word cheſnut colour.

Vultur capite criſtato, pedibus flavis.
The yellow-legged, creſted Vultur.

The Vultur Leporarius, or Hare-catcher.

This is a very noble and majeſtic bird; it is of the bigneſs of a gooſe, and is very erect and ſtately in it's appearance: the head is large, and almoſt naked, except that it has a ſeries of not very long feathers on the crown, toward the hinder part, which it erects at pleaſure, and which, in that ſtate, form a very beautiful creſt: as it flies, they are uſually laid flat to the head; but, when it ſtands or ſits, they are uſually erect; and when it is preparing to ſeize it's prey, they ſtand up in a very peculiar manner: the beak is very large and ſtrong; it is ſtraight and thick all the way, till near the point, but there it turns down, and becomes hooked and very ſharp; it is of a blackiſh colour: the tip is quite black and extreamly hard: the membrane that covers it's baſe is yellow, and the noſtrils are placed tranſverſely in it, and are very large and conſpicuous: the eyes are bold and piercing, but they are not beautiful, and the whole aſpect is indeed rather diſguſtful and forbidding.

The back and upper part of the wings are of a beautiful gloſſy colour, between a reddiſh-brown and black: the breaſt is paler, and approaches to an orange colour, with a great predominance of the yellow: the wings are darker, and their long feathers are almoſt black, as is alſo the tail: the wings are extreamly long, and ſpread to a ſurpriſing extent, as the birds fly, and the tail alſo is long; there is both in the wings and

and tail a glowing tinge of red along with the dark colour, ſeen in ſome particular lights very beautiful.

The legs are very robuſt and long; they are feathered down to a conſiderable depth, but not quite to the toes: the naked part is yellow, and the claws are very long, ſharp, and black.

This ſpecies is a native of the Eaſt, and flies uſually in conſiderable numbers together; it is an extreamly beautiful, but a very terrible, bird: it's wings are ſo long, that it makes a great noiſe in flying; and it's legs are ſo well formed for running alſo, that it purſues it's prey on foot, and will often overtake it that way. It is very voracious; it feeds on birds and quadrupeds, and does not decline feaſting on carcaſſes of any kind. Moſt of the authors who have written on this part of natural hiſtory, have deſcribed it. Aldrovand calls it Vultur Leporarius, from it's feeding on hares; and many of the later writers have borrowed that name from him. The natives of the countries, where it is frequent, are not only afraid for the young of their cattle, but even for their children.

Vultur pedibus cæruleis, dorſo nigricante.
The blue-legged Vultur, with a blackiſh back.

The golden-breaſted Vultur.

This is a very large, and a very beautiful, bird; it's ſize is equal to that of a turkey-cock, and it is remarkably ſtately in it's port and manner of ſtanding: the head is large, and riſing on the crown, not flatted: the eyes are very large and piercing; their iris is a deep hazel, but the whole aſpect of the face is diſagreeable: the beak is very long for a bird of prey, and very ſtrong; it is rounded on the upper part, and runs ſtraight from the head, almoſt to the extremity, where it is very hooked and ſharp: it is throughout of a horn colour, and the membrane which covers the baſe is bluiſh-black; the noſtrils are very conſpicuous in this, and ſtand tranſverſely.

The back and ſhoulders are of a very deep colour, approaching to black, but in ſome places, eſpecially toward the neck, they are variegated with a few ſpots of a ferrugineous brown, and in ſome parts with white ones, but theſe are few and ſmall: the breaſt and belly are of a kind of pale and very bright orange colour: the yellow in this is predominant, but there is every-where a tinge of the reddiſh: there is more of this toward the neck, and on the upper part of the breaſt, than elſewhere, and the belly is almoſt ſimply yellow.

The long feathers of the wings are of a deep duſky brown, ſomewhat paler on the upper ſide than on the under: the tail is moderately long, and is of the ſame colour with the wings: the legs are robuſt and remarkably long; they are very thick covered with feathers on the upper part, but this does not reach quite to the feet: the naked part is of a deep bluiſh colour: the feet are large; the toes long and thick, and the claws very formidable.

This is a native of the Eaſt, and we have ſometimes the ſkin of it ſtuffed, brought over by people of curioſity, who have been up the Levant; but the living animal has not been ſeen in Europe. Some of the writers on birds have deſcribed it but imperfectly. Geſner, from the colour of it's breaſt, and more eſpecially of it's belly, calls it Vultur Aureus, and others have borrowed the ſame name; whence thoſe who have known nothing of it farther than the name, which is the caſe of the generality of thoſe who at this time call themſelves naturaliſts, have ſuppoſed it to be all over of a gold yellow. It is a very rapacious bird, and ſeizes on almoſt every thing ſmaller than itſelf, but it feeds more on quadrupeds than birds.

Vultur pedibus flavis, dorſo fulvo.
The tawny Vultur, with yellow legs.

The brown Vultur.

This is of the bigneſs of a large capon: the head is large, and elevated, not flatted, as in the falcon-kind: the beak is long for a bird of prey; it is very robuſt and black: it runs ſtraight a conſiderable way from the head, but toward the point it bends downward, and becomes hooked: the membrane which covers it's baſe is yellow, and the noſtrils are very conſpicuous in it; they are large, and ſomewhat oblong: the eyes are large, and have a very fierce and cruel look; their iris is of an orange colour.

The head, the whole neck, and the upper part of the breaſt are wholly without feathers; they are covered, in the ſtead of theſe, with a white, ſhort, and ſoft woolly or downy matter, and on the hinder part of the neck, at it's bottom, there are a number of very beautiful, oblong, and very narrow feathers; theſe are longer than any of thoſe on the back or breaſt, and of a paler colour, and more gloſſy: the back is of a tawny or yellowiſh-brown; the breaſt and belly are of the ſame kind of colour, but ſomewhat paler; and in the lower part of the belly, toward the inſertion of the tail, there is a caſt of whitiſh: the upper part of the wings are of the ſame tawny colour with the back, and the rump is alſo of the ſame, only a little paler.

The long feathers of the wings are of a deep brown, approaching to blackiſh: they are very long, and the plumage remarkably broad; their quills make the fineſt of all pens for writing: the tail is compoſed of feathers reſembling thoſe of the wings, but not quite ſo dark in colour.

The legs are covered down, below the middle joint, with feathers of the ſame brown colour with thoſe of the body, except that they are a little paler: the naked part of the legs is yellow, and the toes are very ſtrong, but not remarkably long; the claws, however, make ſome amends for this, and are remarkably long and ſharp.

This is a native of Paleſtine and other parts of the Eaſt; there are uſually ſeen large flights of them together, and they are leſs miſchievous than moſt other of the large birds of prey: they take long flights, and rarely ſtop to do any miſchief: they feed on carcaſſes, and ſeem to have a very remarkable ſcent, for they will aſſemble in companies, and go a great way to find them. We have ſometimes had this ſpecies alive with us, among the people who live by ſhewing foreign creatures, but rarely: none of the authors who have written on birds have perfectly deſcribed it. It comes the neareſt to the Bœtic Vultur of Geſner before deſcribed, but differs in many ſo eſſential particulars, that it can by no means be allowed the ſame ſpecies.

Vultur pedibus albeſcentibus, dorſo nigricante variegato.
The white-legged Vultur, with a black, variegated back.

The Braſilian Vultur.

This is the ſmalleſt of all the Vulturs properly ſo called, but it is not the leaſt beautiful: the bigneſs is about that of a kite, but it is longer, in proportion to it's breadth, and it's legs are longer than in that bird: it alſo ſtands more erect, and in the whole makes a very elegant appearance: the head is ſmall, and not flatted; the beak is moderately long and very robuſt; it is ſtraight a great way from the baſe, but toward the point it turns down, and is very ſharp and hooked: the colour is a deep blackiſh, but it is covered, above half way from the baſe, with a yellowiſh membrane, in which are placed the noſtrils: theſe are long, and ſtand tranſverſely: the eyes are very large and beautiful; their iris is of a bright red, and the pupil is round and black.

The head is naked, but the ſkin which covers it is wrinkled, and is divided, as it were, along the top: the upper part of this ſkin is blue, that below the eye yellow, and that on the top of the head is of a deep browniſh-red: the colours on the reſt of the head are varied in the ſame manner; the variations are quite irregular, and often the two ſides of the head are quite unlike one another.

The

The neck is in part naked, but the lower part of it has before ſome fine downy matter, and behind a few long feathers: the back is of a dark duſky brown: the breaſt and belly are of a paler brown; the wings and tail are darker; the wings are remarkably long, and the legs, where they are not covered with feathers, are white.

This is a native of the Braſils. Marcgrave calls it Urubu, and Nieremberg, Aura; Ray and Willughby call it Vultur Braſilienſis Urubu dictus.

PSITTACUS.

THE beak of the Pſittacus is of a hooked or uncinated figure, and the toes are four in number, two of which are ſituated before, and two behind the foot.

Diviſion the Firſt.

The larger Pſittaci, called Macao's.

Pſittacus cauda cuneiformi, temporibus nudis rugoſis.
The Pſittacus, with a cuneiform tail, and with naked, rugoſe temples.

The Macao.

This is a large and an extreamly beautiful bird: it is equal to a well-grown pullet in ſize, and it's tail is ſo long, that, when full-grown and in perfection, it meaſures, from the top of the head to the extremity of it, more than two feet and a half: the head is moderately large, and riſes on the crown; the beak is very large, thick, and ſtrong, and is ſo hooked, that it is of a ſemicircular figure: it is more than two inches and a half long, and the upper chap of it is two fingers breadth longer than the under, and the whole is black: the eyes are large; they are white and black, and they are ſurrounded by three long black lines ariſing from the baſe of the beak, and continued in a crooked form, ſo that they repreſent the letter S quite to the neck: the top of the head is a little flatted, though the ſides riſe into a convexity; it is green: the throat is ornamented with a black line, which ſurrounds it in the manner of a necklace: the breaſt, the belly, the thighs, the rump, and the under part of the tail, are of a fine, ſtrong, and elegant ſaffron colour: the upper part of the neck, the back, the wings, and the upper ſide of the tail, are all of an extreamly beautiful blue: the tail is very long, and of a cuneiform ſhape.

The legs are very ſhort, but they are robuſt and ſtrong; they are brown, and the toes are long, and are armed with very long, ſharp, and ſtrong black claws.

This is a native of the ſouthern parts of America, and of ſome parts of the Eaſt: almoſt all the writers on birds have deſcribed it. Geſner calls it Pſittacus Cyanocroceus; Aldrovand, Pſittacus maximus Cyanocroceus; and Ray, Willughby, and others have borrowed the ſame name. We have it frequently brought over to us alive, on account of it's beauty, and, when in perfection, it is extreamly elegant. It feeds on fruits, and builds in the hollow trunks of trees; it lays two or three eggs, which are roundiſh, white, and large; when kept with us, it naturally learns to imitate the human voice, and the noiſes of many of our domeſtic and other animals.

Pſittacus cauda cuneiformi, temporibus nudis albentibus, dorſo puniceo.
The ſcarlet-backed Pſittacus, with naked, whitiſh temples.

The red Macao, or Cockatoon.

This alſo is an extreamly elegant bird: it is of the ſize of our raven, and in colour is equal to any of the ſpecies in elegance and ſplendor: the head is very large, and flatted at the top: the beak is very large alſo, and is ſo extreamly hooked, that the whole forms a kind of ſemicircle: the upper chap is white, and the lower one black; and the upper one hangs over the lower to a conſiderable length: the noſtrils are ſmall and

and round; they ſtand near one another at the upper part of the beak, near the feathers: the region of the temples is white, naked, and wrinkled.

The back, the beginning of the wings, the throat, the breaſt, belly, thighs, and the upper part of the tail, are all of the moſt ſtrong and beautiful ſcarlet imaginable: the large wing-feathers are alſo of the ſame bright colour on their inſide, but the ſecond ſeries of the feathers covering the wings are yellow, with purple edges, and they have each a little and beautiful eye, or round ſpot of blue near the extremity: the upper ſurface of the long feathers of the wings, and the lower part of the rump, are of a beautiful blue, and the tinge is very elegant.

The legs are ſhort, but they are very robuſt and ſtrong; they are of a duſky greyiſh colour: the toes are long and ſtrong, and are armed with very long, ſharp, and black claws.

This is very common in the Eaſt Indies, and in ſome parts of America. It is ſometimes brought over alive to us, but is not eaſily kept ſo, unleſs great care be taken to preſerve it from the cold in winter, and at beſt it loſes a great deal of it's ſpirit and vivacity with us: it is, when native, one of the nimbleſt birds in the world, but, with us, there hardly is a ſlower creature in all it's motions: it indeed appears torpid and frozen, to a numbneſs of it's limbs. It will be taught to imitate the human voice, and is often very docile. It lives, in it's wild ſtate, in thick woods, and builds in the decayed trunks of trees; it lays four eggs perfectly white, and of the ſhape and ſize of thoſe of the pigeon, and it's young are a great while before they arrive at their beauty. Moſt of the writers on birds have deſcribed it. Aldrovand calls it Pſittacus maximus alter. Geſner, Pſittacus maximus puniceo-cæruleus; and Ray, Willughby, and others have borrowed one or other of theſe names. We call it the Macao and Cockatoon.

Pſitaccus temporibus nudis lævibus, capite miniaceo.
The ſcarlet-headed Pſittacus, with naked, ſmooth temples.

The red-headed Macao.

This alſo is a very beautiful bird; it is of the ſize of the raven, and very elegantly variegated with colours of an extream brightneſs: the head is large, and of a beautiful bright ſcarlet: the beak is very large, and is not ſo extreamly bent as in the other ſpecies; it is very conſiderably hooked, indeed, but it does not form a ſemicircle: the upper chap is white, and the lower one black, and the upper one is conſiderably longer than the other: the noſtrils are ſmall and round; they ſtand near one another, and are ſituated at the baſe of the beak, near it's inſertion at the head; and from the baſe of the beak to beyond the eyes there are no feathers, but the head is ſo far covered only with a whitiſh ſkin, which is thick and tough, but not wrinkled.

The breaſt and belly are of the ſame elegant ſcarlet colour with the head: the wings and the tail are very beautifully variegated with red, yellow, and blue: the tail is very long and very beautiful; it is of a fine ſky-blue, and the two principal or middle feathers are acuminated at the end.

This is very frequent in the Eaſt, and is alſo a native of many parts of America: it is eaſily kept alive with us, and learns to imitate the human voice very readily. It bears the cold of our climate better than any of the other ſpecies; ſo well indeed, that the late Duke of Richmond had a number of them wild in his garden, where they kept on the trees in a remote part of the grove, near a houſe at which they were fed, and in which there was a German ſtove for warmth; they came into this, when they pleaſed, and were ſo happy and ſo healthful, that they built and laid their eggs there, but they never hatched any young. They did not build, as in America, in the trees, but probably, on account of the warmth, kept in the houſe: the neſt was in ſome corner of the ground; the eggs were only two, at the moſt three, and were white, and much like pigeons eggs. While the hen ſat upon theſe, the cock would walk before

before her to guard her, and would ſcarce ſuffer even the perſon who fed them to approach within three or four yards of her.

Moſt of the writers on birds have deſcribed this ſpecies. Ray, Willughby, and others have called it Pſittacus major diverſicolor; Geſner, Pſittacus Erythrocyaneus; and Marcgrave, by it's Braſilian name, Araracanga. We call it by the general name of the Macao.

Pſittacus cauda cuneiformi, temporibus nudis, lineis plumoſis.
The cuneiform-tailed Pſittacus, with naked temples, and plumoſe lines.

The Araranna.

This is another very beautiful ſpecies; it is of the ſize of a full-grown pullet: the head is large and flatted at the top; the beak is very large, and extreamly hooked: the upper chap is a finger's breadth and a half longer than the under one, and turns down over it: the colour of this is a dirty browniſh-white, and that of the lower chap a duſky brown, almoſt black, ſometimes entirely black: the noſtrils ſtand very high near the inſertion of the beak at the head; they are ſmall, round, and almoſt contiguous: the region of the temples is naked, and variegated with a duſky, blackiſh colour, on a whitiſh-ground, and decorated with plumoſe lines: the feathers which form theſe are black and very ſmall, and the whole variegation cauſed by theſe lines looks like needle-work: the anterior part of the head, a little above the inſertion of the beak, is ornamented with a kind of crown or mitre of green feathers: the throat on the upper part, juſt under the beak, has a circle of elegant black feathers; and the ſides of the neck, the reſt of the throat, the whole breaſt alſo and belly, are yellow: the head, the neck behind, the whole back, and the upper part of the wings, are all of a ſtrong and elegant blue.

Toward the extremities of the wings there are ſome yellow feathers, and there are alſo ſome of the ſame colour about the tail: the tail itſelf is very long and blue, but theſe feathers, and ſome of the others, are only blue on their upper ſurface, being black underneath, and having often ſomewhat of blackneſs about the edges alſo.

The legs are very robuſt and thick, but they are ſhort; they are of a duſky greyiſh colour, and the toes are long, ſtrong, and armed with very ſharp claws.

This is a native of many parts of the Eaſt Indies, and alſo of South America. Moſt of the writers on birds have named it. Marcgrave has deſcribed it under it's Braſilian appellation of Araranna; and moſt of the writers ſince his time have called it by the ſame name. We have it ſometimes brought over to us alive, but it is miſerable in our winters.

Pſittacus maximus albus capite criſtato.
The great white Pſittacus, with a creſted head.

The creſted Cockatoo.

This is a very ſtately and fine bird; the ſize is that of a common hen: the colour is all over a bright and beautiful white: the head is large, and is ornamented with a very elegant creſt, which it erects at pleaſure, and which is formed of a great number of moderately long feathers: the beak is very large and hooked; the upper chap is whitiſh, and much larger and longer than the other, which is black: the eyes are ſmall; and the noſtrils, which ſtand at the top of the beak, are alſo very ſmall, roundiſh, and almoſt contiguous: the wings are moderately long, and the tail is very long and white.

It is a native of America, and is frequently brought over to us; it lives with us more comfortably than many of the other ſpecies, and very familiarly learns to imitate our voices.

Pſittacus cauda cuneiformi cinereo-plumbeus.
The lead-coloured Pſittacus, with a cuneiform tail.

The grey Cockatoo.

This is of the ſize of our common crow, and is leſs beautiful than moſt of the other ſpecies of this genus: the head is large, and flatted on the crown; it is well covered with feathers, but it has not the leaſt appearance of a creſt or crown: the beak is very large; the upper chap is very much hooked, and is two fingers breadth longer than the under: the noſtrils ſtand high, and they are ſmall, contiguous, and round: the eyes are ſmall, but very bright, and the whole front of the head feathered, not in part naked, as in ſome ſpecies.

The neck is thick and ſhort, and is of the ſame grey with the reſt of the bird, only on the throat it is a little paler, and at the ſides a little darker than elſewhere: the whole body, the wings, and the tail are of a duſky grey, with ſome admixture of bluiſh in it: the tail is long, and the two principal or middle feathers are pointed at the extremities.

The legs are ſhort and thick; they are ſcaly, and of a bluiſh-grey colour, deeper than that of the body of the bird; and the toes are long and very robuſt, and armed with long and ſtrong claws.

This is very frequent in the warmer parts of America, but it is not known in the Eaſt Indies; it is very clamorous in the woods. Moſt of the late writers on birds have deſcribed it. Ray, Willughby, and others call it by the Braſilian name Maracana, mentioned firſt by Marcgrave. It is ſometimes brought over to us as a curioſity, but, having no great beauty, it is leſs regarded than the others, whoſe gaudy colours ſtrike the eye.

Pſittacus cauda cuneiformi, capite viridi, alis intus rubris.
The green-headed Parrot, with a cuneiform tail, and the wings red within.

The green-headed Cockatoo.

This is of the bigneſs of a large tame pigeon, and is a very beautiful bird: the head is large, and flatted on the crown; the beak is very large, and ſo hooked, that it approaches to a ſemicircular figure: the upper chap is much larger and longer than the under, but both are black: the noſtrils are ſmall, round, and ſituated near one another at the top of the beak; the ſkin about the eyes is naked, and of a whitiſh colour, but it is beautifully variegated, as if with needle-work, with black lines: the eyes are ſmall, but they are very bright; their iris is of a fine deep orange, or ſaffron colour, and the pupil is round and black.

The head is of a very bright and elegant green colour: the neck, back, and wings are alſo of a green, but the colour there is deeper than that of the head: the top of the head, indeed, is ſomewhat bluiſh, and this ſhews the reaſon of the difference of the reſt of it from the green of the body, there being a faint tinge of the bluiſh all over it, though ſcarce diſtinguiſhable, unleſs by the compariſon with the more perfect green of the body.

The tail is very long and very elegant; the feathers are green on their upper ſide, except that toward the tips they become blue, and of a fine ſtrong ſcarlet on the under ſide: the wings alſo are of the ſame high ſcarlet underneath, and the tips of the wings, like the extremity of the tail, are alſo bluiſh.

The legs are very ſhort, but they are thick and ſtrong, as in the other ſpecies; they are of a duſky brown: the toes are long and robuſt, and the claws are alſo very long and ſharp. There is frequently, but not univerſally, in this ſpecies, a ſpot of brown on the front of the head, a little above the inſertion of the beak.

This

This is frequent in the Braſils, and in ſome parts of the Eaſt Indies; it is very clamorous and noiſy: it lives principally in the thickeſt woods, and feeds on fruits: it builds in hollow ſtumps of trees, and lays two or three white roundiſh eggs. We have it ſometimes brought over to us from the Eaſt Indies, but rarely: it is very noiſy with it's own wild notes, when we have it here, but it ſeldom learns any thing. Marcgrave has deſcribed it under it's Braſilian name Maracana; by which, however, he confounds it with another very different ſpecies. Moſt of the later writers have mentioned it alſo by the ſame name, and have contented themſelves with ſuch a deſcription as they could form upon his account, though the bird itſelf might have been ſeen.

PSITTACI.

Diviſion the Second.

The ſmaller kind, called Parrots.

Pſittacus pedibus flavis capite criſtato albus.
The white-creſted Pſittacus, with yellow legs.

The white Parrot.

THIS is a beautiful and a very ſingular ſpecies; it is about the bigneſs of a large tame pigeon: the head is large, and well-covered with feathers; the beak is large, hooked, and of a grey colour, tending to black: the noſtrils are ſmall, round, and ſituated near one another on the top of the beak, near the head; and between them there is a prominent tubercle: the mouth opens very wide; the tongue is broad and red: the eyes are large, and very bright and beautiful; their iris is yellow, and the pupil black: the whole body is all over white, and the creſt on the head is of the ſame colour. It is compoſed of a conſiderable number of large feathers, which are two inches long, and ſtand nearly erect, only that their middle turns a little backward, and their extremities, which are ſharp or pointed, turn again forwards; there are about ten of theſe, and they are of a brighter and more elegant white than the reſt of the body.

The tail is of a very ſingular figure; it is about five inches long, and is not carried longitudinally, as in the other ſpecies, but is turned up as our hens carry it: it is compoſed of a conſiderable number of feathers, and ſeems to anſwer ſome way, by it's port and form, to the creſt on the head.

The legs are ſhort, robuſt, and yellow; the feet are ſtrong; the toes are thick and ſcaly, but the claws ſhort and inconſiderable.

This is a native of ſome parts of America, but it is not common any where. The late Duke of Richmond had one of them alive many years; and we have ſeen two others ſhewn about London as curioſities among other foreign birds. Moſt of the writers on this part of natural hiſtory have deſcribed it. Aldrovand calls it Pſittacus albus criſtatus; and Ray and Willughby have borrowed his name.

Pſittacus viridis alis rubro variegatis.
The green Pſittacus, with the wings variegated with red.

The common Green-parrot.

This is of the ſize of a tame pigeon: the head is large, and well-covered with feathers: the beak is large, prominent, or gibboſe on the upper part, and conſiderably hooked: the upper chap is longer than the under, and is of three different colours, when the bird is in health and perfection; it is black at the extremity, thence it is a little way bluiſh, and toward the baſe it has a tinge of reddiſh: the lower chap is of a pale, ſimple, browniſh-white.

The

The noſtrils are ſituated toward the baſe of the beak; they are two ſmall, round apertures, and ſtand very near one another: the eyes are large and very beautiful; they are of a deep ſaffron colour in the iris, and the pupil is black: the upper part of the head is yellow.

The body is throughout of a very elegant green: the back is deeper, and the belly is paler, and has often a caſt of yellowiſh: the wings are of the ſame deep green with the back, but the largeſt of the long feathers in them is bluiſh, and the upper edge of each wing is of a very beautiful red.

The tail is ſhort, and has a great deal of red in it on the upper ſide, and has ſome yellow, and a ſpot or two of the ſame red on the under part: the legs are grey; they are ſhort, but very robuſt: the feet are ſtrong, and the toes long and ſcaly; the claws are black, but they are not very ſharp or long, though of ſufficient thickneſs.

There is uſually a circle of a whitiſh colour about the eyes, but this, though very common, is not univerſal: the colour of the back is, in the male, of a brighter, in the female, of a duſkier, green, but in both it is very elegant.

This ſpecies is a native of many parts of America, and of the Eaſt Indies: all the writers on birds have deſcribed it. Aldrovand calls it Pſittacus viridis alarum coſta ſuperne rubente; and moſt of the late writers have mentioned it under the ſame name. It is the ſpecies moſt frequently kept in our houſes, and learns to imitate the human voice with great facility.

Pſittacus viridis pedibus plumbeis, alis variegatis.
The green Pſittacus, with variegated wings, and bluiſh legs.

The painted-winged Parrot.

This is of the ſize of a crow: the head is large, and well-covered with large feathers; the beak is remarkably large and ſtrong: the upper chap is a great deal larger than the under, and it's hooked point bends over it, and is extended ſingly for half a finger's breadth in a hooked form; the colour of the upper part of it is a bluiſh-green, and at the ſides it is yellow; toward the extremity alſo it has a tranſverſe white ſpot: the lower chap is of a lead colour, but ſomewhat yellow in the middle.

The upper part of the head is ornamented with a number of yellow feathers: the ſides of the head and the whole body are green: the back and upper parts of the wings are of a darker, the breaſt and belly of a paler, green, and, indeed, toward the belly, there appears a little yellowneſs in the green; and the roots of the feathers are every-where grey.

The large feathers of the wings are, at their origin, green, but this by degrees turns lower down the feather into a bluiſh, and thence into an elegant purpliſh, hue, and toward the extremities there are evident tints of a fine purple, and ſome black. Thoſe of the ſecond order are entirely yellow, and make a very beautiful variegation in the middle of the wing; and the feathers on the interior part toward the belly are beautifully ſtained with purple, black, green, and ſcarlet.

The tail is large, and very beautiful; it is compoſed of twelve long and very large feathers: the four outer ones each way are green at their baſe, but lower down they are yellow on the inner ſide, and of the moſt elegant ſcarlet on the outer: and the others have, beſide theſe colours, variegations of yellow and green: the four middle feathers have much leſs variegation; they are of a ſimple green all the way to the extremities, where they are tipped, as it were, with yellow.

The legs are robuſt and ſhort; the feet are ſtrong, and are of a duſky lead colour: the toes are thick, but not long; the claws are black, and they are longer and ſharper than in almoſt any other of the Parrot-kind.

The

This ſpecies is a native of the Eaſt Indies, and is frequent alſo in ſome parts of America, and in other warm regions; it is not unfrequently brought over into Europe, and learns as readily as any of them to imitate the human voice. The writers on birds have all deſcribed this ſpecies. Aldrovand and Geſner call it Pſittacus Poicilorynchos; and Ray, Willughby, Charleton, and others have borrowed the ſame name, though it would not have been difficult to have deviſed a better.

Pſittacus viridis capite et pectore flaveſcentibus, alis coccineo variegatis.
The green Pſittacus, with the head and breaſt yellow, and the wings variegated with ſcarlet.

The yellow-breaſted Parrot.

This is of the ſize of a common pigeon, and is a very beautiful bird: the head is large and rounded; it is covered thick with broad, though ſhort, feathers: the beak is large, very ſtrong, much hooked at the extremity, and throughout of a deep black: the noſtrils are ſituated near it's baſe, and are two round apertures near one another: the eyes are very bright and beautiful; their iris is of a deep ſaffron colour, and the pupil black.

The head is of a bright and beautiful yellow, except juſt on the crown, where it is of a bluiſh-green: the throat is alſo of the ſame bluiſh-green, and the breaſt and belly are of the ſame yellow with the reſt of the head; but the belly, toward the lower part, has ſome faint tinge of greeniſh among the yellow: the back is green, and the upper part of the tail is partly yellow, and partly green: the neck and the upper part of the wings are of the ſame full green with the back, but the upper verge of the wings, toward the body, is tinged with a beautiful ſcarlet; and the feathers in each, next to the body, are black, and the others tinged with ſcarlet at the extremities: the rump is alſo tinged with a fine ſcarlet at the hinder edge: the legs are brown; they are very ſhort, but very robuſt: the feet are large and ſtrong, and the claws are black and ſtrong, but not very long or ſharp.

This is a native of the Weſt Indies, and of ſome parts of the Eaſt; it is very noiſy in the woods, but, when kept in a cage, it is not very docile. Moſt of the authors who have written on birds have deſcribed it. Geſner and Aldrovand call it Pſittacus viridis melanorynchos; and Ray, Willughby, and others who have written ſince them, have copied the name they found in them, to ſave the trouble of forming a better.

Pſittacus viridis fronte albeſcente, gula cinnabarina.
The green Pſittacus, with a white front, and red throat.

The red-throated Parrot.

This is an extreamly beautiful ſpecies; it is of the ſize of a large pigeon: the head is large and rounded; the beak is very large, thick, and white; the noſtrils are ſmall, round, and ſituated very near one another, and very high: the eyes are large, but they are leſs bright than that of many other ſpecies; their iris is of a duſky, ferrugineous brown, with ſome tinge of red: the pupil is black.

The fore-part of the head is white, variegated with ſmall ſpots of black, and the hinder part, as alſo the neck, back, wings, and rump, are all of a full deep green: the throat is of a very bright and beautiful ſcarlet, and the tops of the wings are alſo of the ſame colour: the breaſt is green, and ſo are alſo the feathers which cover the thighs, but the belly, between the thighs, is of a reddiſh-brown: the upper parts of the wings have ſome of the ſmaller feathers blue, variegated with white; and the very extream part of the belly, near the inſertion of the tail, is yellow.

The tail is ſhort, but very beautiful; it is red in the middle, and yellow at the ſides, and in ſome parts towards the edges variegated with blue and green among the yellow; and almoſt all the feathers are black at their extremities.

The legs are of a pale grey colour; they are ſhort, but robuſt, and the toes are long, and not ſo thick and clumſy as in many others of this ſpecies: the claws alſo are longer, ſlenderer, and ſharper at the extremities than in almoſt any other ſpecies: they are of a deep black.

This is a native of the American Iſlands, but it is leſs frequent there than moſt of the other ſpecies; we have it ſometimes brought over to Europe, but it does not ſucceed ſo well with us as the others, generally becoming ſickly, and loſing it's feathers. Many of the writers on theſe ſubjects have mentioned it. Ray, Willughby, and others of the late ones have retained Aldrovand's name of Pſittacus leucocephalos, the white-headed Parrot, though that expreſſes too much, as the whole head is not white, but only the fore-part of it.

Pſittacus dorſo cæruleo, ventre vireſcente.
The Pſittacus, with a blue back, and green belly.

The blue Parrot.

This is an extreamly beautiful bird: our Engliſh name but very imperfectly expreſſes it's ſingularity in colouring; it is ſmaller than the common green Parrot: it does not indeed exceed a common wild pigeon in ſize, but it is thicker, in proportion to it's length: the head is moderately large and round; the beak is not ſo large as in the generality of theſe birds, but it is conſiderably hooked, and is all over of a black colour: the noſtrils are ſmall, round, and ſituated near it's baſe; the eyes are bright, and their iris is of a pale brown, their pupil black.

The head is of a bright and beautiful blue, but the region of the eyes is whitiſh, and there is an elegant ſpot of yellow on the crown: the neck and breaſt are blue, but the belly is green, and the feathers which cover the thighs are of a beautiful whitiſh-green: the rump is yellow; the back is of a beautiful ſtrong blue, ſometimes paler, but always elegant: the wings are variegated in an extreamly pretty manner with green, yellow, and red: the extream part of the back is yellowiſh.

The tail is ſhort, and compoſed of twelve robuſt feathers, and there are a few ſmall ones that cover the baſes of the others; they are all green: the legs are robuſt, ſhort, and grey, and the toes are ſhort and clumſy; they are of the ſame grey with the legs, or a little paler, and the claws are long, black, and ſharp.

This elegant ſpecies is very frequent in the iſland of Madagaſcar; we have it alſo from ſome other places, but it does not live ſo long, or ſo healthfully, with us as moſt of the others: it feels our winter very ſeverely, and uſually is in a bad condition, as to it's feathers. Moſt of the authors who have written on birds have deſcribed it. Ray and Willughby borrow the name of Aldrovand, and moſt others after them have alſo called it Pſittacus verſicolor ſive Erythrocyaneus.

Pſittacus cinereo-ſubcæruleus.
The bluiſh-grey Pſittacus.

The grey Parrot.

This is one of the leaſt beautiful ſpecies of the Parrot-kind that we are acquainted with, but it is valued for it's great docility, and it's articulate voice; it is of the bigneſs of a large tame pigeon: the head is large, round, and covered with broad feathers: the beak is large, moderately hooked, and black; the noſtrils are round, and ſtand near one another in a white membrane, that covers the baſe of the beak.

The head and body are of the ſame colour, which is a ſimple, uniform, bluiſh-grey; but the loweſt part of the back, the belly, and the rump, are paler than any other part, and have leſs of the bluiſh-caſt than the reſt.

The wings are long, and are of the ſame colour with the reſt of the bird; the covering feathers are paler than thoſe of the back, and the under part of the wings is alſo yet paler. The bird is not a ſwift nor an eaſy flier, notwithſtanding the advantage of this breadth of wing, but it's body is bulky, and it's motions none of them quick.

The tail is very ſhort; it ſcarce reaches at all beyond the tips of the wings, when they are cloſed; but, though not conſpicuous for it's length, it is ſufficiently ſo in it's colour, being of a bright and elegant red.

The legs are of a bluiſh-grey; they are ſhort, but robuſt: the toes are long and ſtrong, and the claws are remarkably long, large, and ſharp in the wild ſtate; though, with us, the treading on the dung in a cage injures them greatly.

This is a native of the Eaſt and Weſt Indies, and of many parts of Africa. It is very common with us in houſes, and, though the leaſt beautiful of all the Parrot-kind, is valued for it's docility, and the clearneſs of it's voice: it is the happieſt mimic of all the race, not only of the human voice, but of all other ſounds. All the writers on birds have deſcribed it. Geſner, Aldrovand, Charleton, Willughby, and Ray, all call it Pſittacus cinereus ſive ſubcæruleus; we, the grey Parrot.

Pſittacus cinereus alis et uropygio rubro tinctis.
The grey Pſittacus, with the rump and wings tinged with red.

The red-rumped Parrot.

This is a very beautiful bird; it is one of the largeſt of the Parrot-kind: it's ſize is about that of a well-grown pullet: the head is large and rounded; the beak is remarkably large; it is very hooked and black all over: the upper chap is much longer than the under, and is very prominent or convex toward the middle: the noſtrils are round, and ſtand near one another at the baſe of the beak: the eyes are ſmall, but very bright; and the tongue is large, thick, and fleſhy.

The head and neck are covered with ſhort, broad, and very thick-ſet feathers, the body with longer; the whole bird is of a very pale and beautiful grey: it has nothing of the duſky lead colour or bluiſh tinge of the common grey Parrot, but the grey is pale, ſilvery, and almoſt white, and the hinder part of the back, and the white rump, are of a ſtrong ſcarlet, very bright and beautiful.

The wings are long and large; their covering feathers are of the ſame whitiſh-grey with the reſt of the bird, but the long feathers are of a beautiful ſcarlet, the ſame with that of the rump; theſe make an elegant variegation in the colour, as the bird ſits; and ſtill more ſo, when they are expanded for flying, as much more of the ſcarlet is then ſeen.

The legs are ſhort, thick, and of a duſky lead colour; the toes are long, thick, and ſcaly, and the claws are robuſt, black, and ſharp, but not very long.

The tail is ſhort, it hardly reaches beyond the tips of the wings; it is of the ſame colour with the body: it's ſize would naturally have led authors to the ranking it among the macao's, but the ſhortneſs and form of the tail forbid.

This is frequent in the woods in the American iſlands, and is ſometimes brought alſo from the iſland of Madagaſcar, and ſome other places; we have it often brought over alive, but it does not bear our winter ſo well as ſome of the other ſpecies. The late Lord Petre had one which lived ſeveral years, and ſpoke very articulately. Geſner and Aldrovand have deſcribed it under the name of Pſittacus Erythroleucos; and Ray, Willughby, and many of the late writers have borrowed the ſame name, though it is not quite proper, the general colour being not an abſolute white, but a fine pale, ſilvery grey.

Pſittacus

Pſittacus viridis capite flaveſcente, vertice cæruleo.
The green Pſittacus, with a yellow head, and blue crown.

The painted Parrot.

This is one of the beautifulleſt of the whole Parrot-kind; it is of the ſize of a tame pigeon: the head is large and round, and is remarkably beautiful in it's form, as well as colouring: the beak is very large, long, hooked, and black; the upper chap is much longer than the under, and the noſtrils are round, and ſtand near it's baſe, but not ſo cloſe to one another as in the other ſpecies: the eyes are very bright and beautiful; the iris is of a gold yellow, and the pupil black, and they have a peculiarly briſk and ſprightly aſpect.

The head is of a fine gold yellow, only on it's crown there is a beautiful and regular oval ſpot of a bright blue: the throat alſo is of the ſame bright yellow with the head.

The body is of a very beautiful graſs-green; the upper part of the back is darker than any other part; the wings are long, and their principal feathers are variegated in an extreamly elegant manner; they are one half yellow, and the other half black, except at the very tips, where they are of the ſame beautiful blue with the top of the head, and they have alſo ſome green about them, paler, but not leſs bright, than that of the body, and very happily intermixed with the other variegations.

The tail is moderately long; when cloſed, it appears ſimply green like the body; but, when the bird ſpreads and expands it, the feathers are found to be elegantly variegated toward their edges with black, red, and blue, as if ornamented with fringes of thoſe colours: the legs are robuſt, but ſhort, and the toes are ſtrong and ſcaly; they are of a duſky grey, with a caſt of bluiſh, and the claws are long, black, and ſharp.

This is a native only of the warmer parts of America; it is frequent in the Braſils, and in the woods, about the mines of Potoſi. Marcgrave, and other of the writers on the natural hiſtory of thoſe countries, have deſcribed it. They have called it, by it's Braſilian name, Ajurucura; and our authors, who have written on the ſame ſubjects, have ſaved themſelves the trouble of forming an intelligible one by keeping this, as they have done alſo in too many other of the Braſilian animals.

Pſittacus viridis capite flavo viridi et albo variegato.
The green Pſittacus, with the head variegated with yellow, green, and white.

This is alſo an extreamly elegant bird; it is ſmaller than the former ſpecies, it's ſize not exceeding that of a jack-daw: the head is ſmaller than in moſt of the Parrot-kind: the beak, however, is large; it is of a mixed, browniſh, and bluiſh-grey colour, and the upper chap is conſiderably longer than the under: the noſtrils are very large, and ſtand at ſome diſtance from one another, but very near the baſe of the beak; they are round, and of a paler colour than the reſt of the membrane in which they ſtand: the tongue is large, thick, and fleſhy; and the eyes are ſmall, but very bright and piercing: their iris is yellow, and the pupil black.

The head is of a very elegant blue, but about the center of the crown there is an elegant ſpot of yellow, with ſome white intermixed among it; between that ſpot and the origin of the beak there is alſo a very beautiful ſpot of a ſea-green; and over the eyes there is a broad ſpace of an elegant and pure yellow: the neck is green on the hinder part, but the throat is of the ſame gold yellow with the upper part of the ſides of the head: the body is of a fine graſs-green; the back is darker, and the breaſt and belly paler: the wings are long, and the tail ſcarce exceeds them by half an inch, when cloſed.

The

The legs are ſhort, but they are leſs robuſt than in many other ſpecies: the toes are ſlender, and of a bluiſh colour, and the claws are long and black: the whole bird has a more delicate appearance than almoſt any other of the Parrot-kind; it ſtands more erect, and holds it's head in a ſtately and elegant manner.

This ſpecies is frequent in the woods of almoſt all parts of South America, but it has never been brought alive into England. Sir Hans Sloane has a ſtuffed one, and I believe it is the only ſpecimen in Europe. Marcgrave and Piſo have deſcribed it but imperfectly.

Pſittacus vireſcens capite nigro cæruleo et flavo variegato.
The green Pſittacus, with the head variegated with blue, black, and yellow.

This is another of the elegant ſpecies known only in South America; it is of the bigneſs of a common pigeon: the head is large and round, and is cloſe covered with ſhort feathers, which the bird frequently raiſes into an almoſt erect poſition, and by that means makes it appear much larger: the beak is large, very hooked, and of a duſky brown colour: the upper chap is much longer than the under, and the extremity of it, which hangs over the other, is quite black: the baſe is covered with a thick and wrinkled bluiſh membrane, and in this are ſituated the noſtrils; they are large, and ſtand but at a ſmall diſtance from one another: the tongue is thick, fleſhy, and black: the eyes are moderately large, and very piercing; they are yellow in the iris, and the pupil is black.

The ground colour of the head is green, but the crown is ornamented with a large ſpot of a mixed blue and black colour, and in the center of this there is a ſpot fo yellow: the ſides of the head below the eyes have alſo a great deal of yellow, and the throat is of the ſame beautiful gold colour, but in the midſt of it there is a large and elegant ſpot of blue.

The hinder part of the neck, the back, the wings, and the rump, are all of a fine ſtrong graſs-green; the breaſt and belly are of an elegant green, but paler: the wings toward their lower part alſo are paler, as is alſo the tail; but the extremities of the long feathers in the wings are beautifully variegated with yellow, a ſtrong crimſon, and a deep blue: the tail is but ſhort, and, though ſolely green on the upper part, it is variegated with green and yellow on the under.

The legs are ſhort and robuſt; the toes are moderately long; the claws are very long and ſharp, but they are not thick; they are of a gloſſy black.

This is a native of the Braſils, and of the woods about the gold mines of Peru. Marcgrave and Piſo have deſcribed it; they have only given it's Braſilian name Ajurucuruca; and Ray, Willughby, and other of the modern ornithologiſts, have caſually mentioned it only under the ſame name; we have had two or three very well-preſerved ſpecimens of it lately in England.

Pſittacus niger pectore rubro.
The black Pſittacus, with a ſcarlet breaſt.

The black Parrot.

This is an extreamly ſingular bird; it's form, and the ſtructure of it's beak and feet, ſufficiently diſtinguiſh it to be a Parrot, though it's colours, ſo different from thoſe of the generality of thoſe birds, would induce a perſon not ſo well acquainted with this part of natural hiſtory, at firſt ſight, to doubt it: the head is moderately large and round, and is thick, covered with ſhort and broad feathers, which it can erect at pleaſure, and make it look much larger; the beak is large, only prominent or convex on the upper ſide; the hooked part of the upper chap hangs a good way over the extremity of the under, and the whole of a duſky grey colour: it is covered at the baſe by a browniſh membrane, with a tinge of blue, and in this ſtand the noſtrils; they are ſituated very near one another, juſt at the baſe of the beak, almoſt under the front feathers of the head: the eyes are very ſharp and piercing, but not very large; their iris is of a bright gold yellow, and the pupil black.

The head is of a deep black, without any variegation: the neck and back in the female are alſo of the ſame deep black, but, in the male, the upper part of the back is red: the breaſt and belly are of a very ſtrong and deep ſcarlet, but the lower part of the belly, toward the tail, is black: the wings and tail are black, and the legs are of a bluiſh-grey.

It is a leſs clumſy bird than moſt of the Parrot-kind: it ſtands very erect, and has at once a ſprightly and a ſtately appearance: the legs are longer and leſs robuſt than many of the ſpecies; and the toes, though they ſtand two each way, as in the reſt, are ſmaller than in any other: the claws are long, black, and ſharp.

This is a native of the foreſts in Paraguay, and ſome other parts of South America. It is ſometimes carried alive into Portugal, where it is taught to imitate the human voice, as the other Parrots do, and is much valued for the ſingularity of it's colouring.

Pſittacus viridis, capite, pectore, et ſummitatibus alarum coccineis.
The green Pſittacus, with the head, breaſt, and top of the wings red.

The red-headed Parrot.

This is a very ſingular and a very beautiful ſpecies: the head is ſmall, and leſs rounded than in moſt of the others, being compreſſed at the ſides, and a little flatted on the top: the beak is large, very hooked, and it's upper chap prominent a great way beyond the under; the noſtrils are ſmall and round, and they ſtand ſo near the baſe of the beak, that they are not eaſily ſeen, unleſs looked for: the eyes are ſmall, but they are very bright and piercing; the iris is of a ſaffron colour, the pupil black.

The head is of an elegant crimſon; the body is green, but the breaſt and the tops of the wings are of the ſame ſtrong and elegant red with the head: the wings are long, and the tail reaches about three quarters of an inch beyond their tips, when they are cloſed: the legs are ſhort, but robuſt, and the feet are alſo thick and ſtrong; the claws are ſharp and black.

This is a native of South America. Marcgrave has deſcribed it under it's Braſilian name Tarabe; and Ray, Willughby, and others have borrowed it.

Pſittacus cruribus albis corpore toto viridi.
The white-legged, green Pſittacus.

The red-eyed Parrot.

This is a very ſingular ſpecies, though in beauty it is much inferior to the former, and to many of the others: it is of the ſize of a moderately grown pullet; the head is large, round, and covered thick with ſhort and broad feathers: the beak is very large and very hooked; it is of a duſky brown colour; the upper chap is much longer than the under, and it's upper part is gibboſe, and it's point which hangs over the other very ſharp: the baſe of it is covered for a conſiderable way with a thick, white membrane; in this the noſtrils are very conſpicuous: they are two roundiſh apertures, placed very near one another, and toward the baſe of the beak.

The eyes are ſmall, but very bright and piercing; their iris is of a beautiful red.

The feathers which cover the head are all of the ſame uniform green: the neck is of a ſomewhat darker green than the head; and the body, eſpecially the back and upper parts of the wings, are of a green yet darker than that: the breaſt and belly are ſomewhat paler, but the whole is without variegation.

The wings are moderately long, and their long feathers very robuſt; the tail is ſhort; it does not reach more than an inch beyond the tips of the wings, when they are

are cloſed: the legs are robuſt, but they are very ſhort and white; the feet are alſo white, and the toes leſs thick and clumſy than in many of the others: the claws, however, are very long, black, and ſharp.

This ſpecies is a native of South America, and we have ſometimes had it brought from the iſland of Madagaſcar, but it is leſs valued than the other ſpecies, from it's wanting their variegations; a very remarkable one for it's articulation of voice in the city was of this ſpecies. Few of the writers on birds have deſcribed it. Marcgrave mentions it under the name of Ajurucatinga; and Ray, Willughby, and others have preſerved the name, though they have troubled themſelves about very little more. Marcgrave has alſo mentioned it a ſecond time, under the name of Ajurupara, deſcribing a ſmaller bird of the ſame ſpecies, as if a different one.

PSITTACI.

Diviſion the Third.

The leſſer Parrots, commonly called Parroquets.

Pſittacus viridis torquatus ventre ſubflaveſcente.
The green, torquated Pſittacus, with the belly yellowiſh.

The common Parroquet.

THIS is a very pretty little bird, though not ſo much variegated, in point of colour, as ſome of the other ſpecies; it is ſmaller than any ſpecies of the common Parrot: the head is moderately large and round; the feathers which cover it are ſhort, broad, and well plumed: the beak is remarkably large, and is of a bright red colour; the upper chap is much longer than the under, and the form of the whole is gibboſe and hooked: the eyes are not large, but they are very bright and piercing in their aſpect; the iris is yellow, and the pupil black.

The head is of a fine graſs-green, and the whole body alſo is green, but the beak and upper parts of the wings are darker, and the breaſt and belly paler, and the belly has ſome tinge of yellowiſh: from the beak there runs a black line on each ſide, which is continued under the chin to the beginning of the breaſt, and thence to the ſides of the neck again, and the joins torquis or circle of red which is extended acroſs the back part of the neck, and makes what is called the necklace of Parroquets. This elegant mark is of the breadth of a man's little finger in the middle, and grows each way ſomewhat narrower to the ſides.

The wings are long, and the large feathers are, ſome of them, of a duſkier green than the others, and theſe have each a ſingle ſmall round ſpot of red on them: the tail is very long, and very beautiful; it is not leſs than ſeven inches in length, when the bird is in perfection, and it is of a fine pale yellowiſh-green.

The legs are ſhort, robuſt, and of a duſky greyiſh colour, and the membrane which covers the baſe of the beak is alſo greyiſh: the feet are clumſy, the toes ſhort and thick, and the claws leſs ſharp than in ſome of the other ſpecies.

It is a native of the Eaſt Indies, and was the firſt bird of the Parrot-kind known in Europe; we meet with accounts of it in the oldeſt writers, and we find, by thoſe accounts, that they knew no other. The authors who have written on birds have all deſcribed it. Ray, Willughby, Aldrovand, and others call it Pſittacus torquatus, Macrouros antiquorum; others, Pſittacus torquatus.

Pſittacus

Pſittacus totus viridis macrouros pedibus rubentibus.
The green, long-tailed Pſittacus, with red legs.

The red-legged Parroquet.

This ſpecies is diſtinguiſhed at ſight from the former, by it's want of the ſcarlet collar on the back of the neck, and by the redneſs of it's legs, as well as by it's ſize; yet ſo it has happened, that, in deſpite of theſe obvious characters, they have been confounded together: it is but little bigger than a thruſh; the head is larger, in proportion to the body, and is round, and covered thick with ſhort and ſomewhat broad feathers, which, though they uſually lie very cloſe, it can erect at pleaſure, ſo as to make the head ſeem very nearly equal to the body in diameter: the beak is large, and of a fine bright red colour: the upper chap is longer than the under, and is hooked at the point; it is very thick at the baſe, and is there covered with a thick and tolerably ſmooth ſcarlet membrane, in which are placed the noſtrils; they ſtand very high, and are round and ſituated near one another: the eyes are not very large, but they are very bright, and have a pleaſing and beautiful, as well as a piercing, aſpect; their iris is of a ſaffron colour, and their pupil is black.

The head, as well as the whole body, are of a ſtrong and beautiful green, but the back and tops of the wings are of the deepeſt colour: the head, throat, and breaſt are ſomewhat paler, and the belly is yet paler than thoſe, and has a tinge of yellowiſh.

The tail is very long and narrow; it is pointed at the extremity, and is of the ſame green with the wings, which is a duſkier than that of the reſt of the body.

The legs are ſhort, robuſt, and of a bright red; the toes are ſhort but ſtrong, and the claws are ſhort, not greatly hooked and blackiſh.

This ſpecies is a native of many places both in the Eaſt and Weſt Indies, and is frequently brought over to us, though leſs eſteemed than the former ſpecies: all the writers on birds have deſcribed it. Aldrovand calls it Pſittacus minor macrourus totus viridis; and Ray, Willughby, and moſt of thoſe who have written ſince his time, have continued the name.

Pſittacus macrourus viridi rubro cæruleo et albo variegatus.
The long-tailed Pſittacus, variegated with green, red, blue, and white.

The variegated Parroquet.

This is one of the moſt beautiful birds we are acquainted with: the Parrot-kind are many of them elegantly variegated, but this has more variety of colouring, and the colours themſelves are brighter than in any other: it is about the bigneſs of a common pigeon, and, though in it's general form it approaches to the Parrot-kind, it is, in many particulars, extreamly different from them.

The head is ſmall and not rounded, as in moſt of the others, but flatted on the crown, and ſomewhat compreſſed at the ſides: the beak alſo is ſmall, and not only differs in this from that of all the other Parrot-kind, but alſo in it's ſhape; it is, indeed, hooked at the extremity, as they are; but whereas in theirs the hooked extremity is formed only of the end of the upper chap, continued beyond the under, and turned over it; on the other hand, this has the under as well as the upper chap turned down, to form the hooked point.

The body is variegated with four colours, all of them very bright and gloſſy; the principal are green and red: the whole back, the neck, the top of the head, and the covering feathers of the wings are green, except that about the ſhoulders there are ſome few blue feathers: the two outer long feathers of the wings are green, but all the

the reſt are of an extreamly beautiful blue; and all the feathers of the wings, as well the long ones as the covering ones, have the ſcapi white.

The variegations about the head are elegant: the beak itſelf is red, but the membrane which covers it's baſe is of a deep black colour: the eyes are large, and their iris is of a ſtrong ſcarlet, and the pupil black: the throat is of a duſky colour, but with a conſiderable tinge of red: the ſides of the head are variegated each with blue ſpots, one before, and the other behind, the eyes: the breaſt and belly are altogether red; the tail is very long, and is green, only the ſcapi of the feathers are white: the legs and feet are of the ſame deep and gloſſy black, with the membrane that inveſts the baſe of the beak: the feet are clumſy; the toes ſhort and thick, and the claws not very long or crooked.

This is a native of Japan. The firſt account we had of it was from Aldrovand, who had never ſeen the bird, but had formed a full deſcription from a painting which had been done from the life: the ſingularity of the colouring, and of the form of the beak, made Ray and Willughby doubt of the truth and accuracy of the figure; but the bird has been ſince ſent over preſerved, and anſwers perfectly to it.

Moſt of the writers ſince Aldrovand have mentioned it, and they have all borrowed his name; he calls it Pſittacus Erythroleucos macrouros.

Pſittacus criſtatus macrouros criſta et cauda rubentibus.
The long-tailed, creſted Pſittacus, with the creſt and tail red.

The creſted Parroquet.

This is a very ſingular and a very beautiful ſpecies; it has much the appearance of the great, long-tailed Parrot, or Macao-kind, but that it is ſo much ſmaller; it hardly exceeds a jackdaw in ſize: the head is moderately large, rounded, and very thick covered with ſhort and broad feathers, and on it's top has a beautiful creſt: the beak is large, protuberant on the back of the upper part, and hooked at the end: the eyes are moderately large, and very bright and piercing in their aſpect; their iris is of a fine ſtrong red, and the pupil black: the back and ſhoulders are of a fine deep graſs-green; the breaſt is of a paler green, but ſtill of the ſame pure tinge; the belly is yet paler, and is ſomewhat yellowiſh: the head alſo is of an elegant graſs-green, but the creſt, which is long and very beautiful, is of a fine bright ſcarlet: this creſt is compoſed of ſix feathers, three of them longer, and three ſhorter, and is uſually carried erect, though the bird can lay it down flat at pleaſure, in which ſtate it gives the appearance of a fine, long ſpot of red, carried from the hinder part of the head down to the neck, toward the ſhoulders: the tail is long and narrow; it is formed but of a few feathers, and is of the ſame elegant ſcarlet colour with the creſt.

The legs are ſhort, robuſt, and of a bluiſh-grey: the toes are ſhort and ſcaly, and the claws are long, black, and ſharp.

It is a native of the Eaſt Indies; they ſay that it has been alſo ſometimes brought over from South America, but this ſeems leſs atteſted. Aldrovand calls it Pſittacus erythroclorus criſtatus, and moſt of the writers, ſince his time, have continued the ſame name to it.

Pſittacus minimus macrouros totus vireſcens, roſtro nigricante.
The very ſmall, long-tailed Pſittacus, all over green, but with a black beak.

This is an extreamly pretty little bird, it is not larger than a ſparrow: the head is ſmall, not round, as in moſt of the Parrots, but compreſſed at the ſides, and a little flatted on the crown: the beak is moderately large; the upper chap is longeſt, and is

hooked at the point; the baſe of it is covered with a membrane, in which are ſituated the noſtrils very near to one another; and, toward the very baſe, the upper part is protuberant, and the whole is of a deep black.

The eyes are ſmall, but very ſharp and piercing; their iris is of a ſaffron colour, and their pupil is black: the whole head is of a fine, deep, graſs-green.

The body is ſlender, and is throughout of the ſame bright green with the head: the wings are ſhort, but the tail is very long, narrow, and pointed at the extremity; this, as well as the whole bird, is of a fine ſtrong green.

The legs are ſlender, but ſhort; the toes are long, and alſo very ſlender, and the claws long, ſharp, hooked, and black.

This ſpecies is very frequent in the woods of South America, but has not yet been met with any where elſe. Marcgrave has deſcribed it under it's Braſilian name Tui, with the diſtinction of prima ſpecies; and Ray, Willughby, and others have continued the ſame name, though they ſeem never to have ſeen the bird. We have it at this time ſometimes ſent over dried, as a curioſity.

Pſittaccus macrourus vireſcens, capite macula crocea inſignito.
The long-tailed, green Pſittacus, with a ſaffron-coloured ſpot on the head.

This ſpecies is about the ſize of a lark: the head is ſmall, but very elegantly variegated; the beak is moderately large, protuberant on the upper part, pointed at the end, and all over of a deep ſhining black: the eyes are large; their iris is of a duſky, ferrugineous colour, and the pupil black; the form of the head is ſomewhat compreſſed and flatted on the crown, but leſs ſo than in ſome others.

The ground colour of the head is a fine graſs-green: on the ſummit or crown there is an elegant and large ſaffron-coloured ſpot, and round the eyes there runs a circle of yellowiſh-feathers: the green of the lower part of the back has a caſt of a duſky bluiſh among it; and, on the upper part of the tail, there is yet more of this blueneſs: in ſome lights, indeed, the tail appears rather blue than green; the legs are ſhort, but they are not very robuſt; the feet are large; the toes long and ſcaly, and the claws very long, black, and ſharp: the legs and the membrane that covers the baſe of the beak are of a duſky bluiſh-grey.

This is a very common ſpecies on the continent of South America, and in other of the warm climates. Marcgrave and Piſo have deſcribed it under the name of Tuiaputejuba; and Ray, Willughby, and others have given it no other name, though they have all mentioned it, and tranſcribed as much as theſe imperfect writers have ſaid about it. We ſometimes have ſpecimens of it brought dried from the warmer parts of America.

Pſittacus viridis cauda brevi, roſtro rubente, et pedibus cæruleis.
The ſhort-tailed, green Pſittacus, with a red beak, and blue legs.

The Tuitirica.

The name of this ſpecies expreſſes a ſingularity, that ſcarce any other of the Parrot-kind has; it's beak, and the membrane at the baſe of it, are of a colour remarkably different from that of the legs; whereas it is almoſt univerſal, that the legs and that membrane are of the ſame colour.

This is of the ſize of a pigeon: the head is large and round, and is covered very thick with ſhort and broad feathers, which it erects at pleaſure: the beak is large and very

very hooked; it is of a pale red colour: the upper chap is conſiderably longer than the under one, and turns over it, and is of a deep blood colour at the point, which is very ſharp and ſolid: the membrane inveſting the baſe of it is a ſtrong red, deeper than the generality of the beak, but not ſo deep as the tip of it: this is ſomewhat wrinkled, and, toward the part where it is connected to the forehead, ſtand the noſtrils: they are large, round, and ſituated very near to each other.

The head is of a ſtrong green, but when the feathers are raiſed, as the bird frequently carries them, there appears a tinge of yellowiſh throughout them: the back and the upper parts of the wings are of a deep green, and the breaſt and belly are much paler, and have more yellowneſs among the green, than there is on the head.

The wings are long, and the principal feathers have, in ſome lights, a good deal of a bluiſh tinge mixed with the green: the tail is ſhort; it ſcarce at all appears beyond the tips of the wings, when they are cloſed: the colour is the ſame green with that of the back, but on the under part it is ſomewhat pale and yellowiſh.

The legs are ſhort, robuſt, and of a duſky bluiſh colour: the feet are large; the toes both long, and thick, and ſcaly; the claws are very ſtrong, but they are ſhorter, and leſs ſharp at the point than in ſome other ſpecies.

This is a native of the Braſils, and is often carried over alive to Portugal, where it is kept in cages; it eaſily grows tame and familiar, and will learn to imitate the human voice with great readineſs. Marcgrave and Piſo have deſcribed it under it's Braſilian name of Tuitirica; and Ray, Willughby, and the generality of the later writers on birds have preſerved that name, and ſome imperfect deſcription of it.

Pſittacus viridis cauda brevi, pectore ſubflaveſcente.
The ſhort-tailed, green Pſittacus, with a yellowiſh breaſt.

This is one of the ſmaller Pſittaci, and is a very beautiful bird, though of no great variety of colouring; it is about the bigneſs of a lark: the head is large and round, and the feathers which cover it are ſhort, but they are broad and well plumed; they always lie very cloſe, and in a beautiful imbricated order, reſembling ſcales; and the bird never erects them, as is uſual with many others of the ſpecies: the eyes are large and black, and there is a naked and rough ſkin of a pale grey about them: the beak is large and thick; it is very hooked, and is all over of a black colour: the upper chap is much longer than the under, turning over it at the end, and the very point is black: the membrane which covers the baſe of it is of a deep bluiſh-grey, and the noſtrils ſtand toward the top of this; they are roundiſh, and are ſomewhat oval, and are ſmaller than in almoſt any other ſpecies; but they ſtand almoſt cloſe together, as in the generality of the others.

The whole head is of a ſtrong and bright green, only that on the crown there is a tendency to yellowiſhneſs, which is not at all ſeen on the ſides: the back and the upper part of the wings are of a very beautiful ſtrong green: the breaſt is yellowiſh, and the belly ſtill paler and more yellow: the whole upper ſurface appears of this ſtrong and elegant green, but in the wings there is a blackiſhneſs mixed with it in ſome degree, that is not at all diſtinguiſhable on the back.

The tail is ſhort and broad, it ſcarce at all extends beyond the tips of the wings, when cloſed; it is of the ſame green with the back on the upper ſide, and on the under it is of a paler green, but there is not much of the yellow tinge of the breaſt or belly to be diſtinguiſhed in it.

The legs are moderately long, and are not ſo thick as in many of the Parrot-kind; they are of a duſky bluiſh colour and ſcaly: the toes are ſhort, thick, and ſcaly, and the claws are long, black, and very ſharp.

This

This is a native of Africa, and ſeems alſo, from the accounts of Marcgrave and Piſo, to be common to the Braſils, and ſome other parts of South America. We have had it alive in London. Marcgrave mentions it, but he does not give it any peculiar name; he only ſays, that it in ſome degree reſembles the Tuiaputejuba, the ſpecies before deſcribed.

Pſittacus glaucus cauda brevi, capite et pectore luteo.
The bluiſh-green Pſittacus, with a yellow head and breaſt, and a ſhort tail.

The Jendaya.

This is a very ſingular ſpecies; it is of the bigneſs of our common thruſh: the head is large, round, and very beautifully covered with feathers: the beak is large, very robuſt and hooked, and is throughout of a deep gloſſy black: the membrane which covers it's baſe is alſo black; it is extended over a third part of the beak, and is of an irregular ſurface: the noſtrils ſtand toward the baſe of this, and are of an oval figure, and placed very near one another: the eyes are large, and they are remarkably bright and piercing; the iris is yellow, but it is not broad; the pupil is very large and black.

The whole head is of a yellow colour, deeper at the ſides, and paler on the crown: the breaſt and the belly are alſo yellow, but of a paler tinge than the head: the ſhoulders, back, and wings are of a very beautiful bluiſh-green, a colour not met with in this perfection in any other ſpecies, and the whole bird is not only tinged equally on the upper part with this colour, but the feathers are remarkably even, gloſſy, and ſhining.

The wings are large, and of the ſame blue green colour throughout, except at their tips, where they are black: the tail is of the ſame blue green in the back; the legs are ſhort, robuſt, and of a deep ſhining black; the toes are robuſt and ſhort, and the claws ſhort but thick, and very ſharp at the points.

This is a native of Peru, Mexico, and the Braſils: the Portugueſe there are very fond of it for it's docility, and ſometimes ſend it over into Europe, but it ſeldom lives long out of it's native country. Marcgrave and Piſo mentioned it under it's Braſilian name of Jendaya; and Ray, Willughby, and others have preſerved the name, and copied their imperfect deſcriptions. The ſpecimens which have been ſent over dried to England, and other parts of Europe, ſince their time, have enabled us to make much more full deſcriptions of theſe birds; and to theſe are, in a great meaſure, owing the improvements made within the laſt forty or fifty years in natural hiſtory.

Pſittacus viridis cæruleo variegatus roſtro rubente, pedibus cinereis.
The green Pſittacus, variegated with blue, with a red beak, and grey legs.

The Tuiete.

This is one of the ſmall ſpecies, but it has an extreamly elegant and clean appearance: it is about the bigneſs of our lark, but it is thicker, in proportion to it's length, and ſtands remarkably erect and firm: the head is large, in proportion to the body, and is round, and very regularly and beautifully covered with ſhort and broad feathers: the eyes are large, and very piercing; their iris is of a duſky ſaffron colour; the pupil large and black: there is a ſmall naked ſpace about the eyes, the ſkin of which is of a pale grey colour, and granulated ſurface: the beak is very large, in proportion to the ſize of the bird, and is of a beautiful pale red colour: the upper chap is longer than the under, and it's point turns over the extremity of the other, as in the reſt of the Parrots: the membrane at the baſe is of a bluiſh-grey; the noſtrils are very conſpicuous toward the upper part of this; they are perfectly round, and ſtand very cloſe to one another; the whole membrane is of a wrinkled ſurface.

The

The head is of a beautiful and ſtrong green: the back, ſhoulders, rump, and tail are alſo of the ſame green, and the ground colour of the wings is alſo the ſame; but the beginnings of the wings are tipped with a beautiful blue, and the extremities of ſome of the other feathers are alſo blue, and theſe ſtand in ſuch a regular order, that, when the wing is cloſed, their tips form a very beautiful and regular oblong blue ſpot, running down the length of the innner ſide of the wing: at the lower part of the back alſo, near the origin of the tail, there is a very elegant blue ſpot.

The tail is ſhort; it is ſcarce at all ſeen beyond the tips of the wings, when they are cloſed; it is of the ſame green with the back: the legs are ſhort, robuſt, and of a pale bluiſh-grey colour: the toes are ſhort, robuſt, and ſcaly, and are of a yet paler grey than the legs; the claws are long, ſharp, and black.

This is a native of the Braſils, and is deſcribed by Marcgrave and Piſo. They call it by it's Braſilian name Tuiete; and Ray, and others who have ſince mentioned it, have continued the ſame name.

Pſittacus viridis cauda brevi, macula nimiata in fronte.
The ſhort-tailed, green Pſittacus, with a ſcarlet mark on the head.

The Tuipara.

This is an extreamly beautiful little ſpecies: it is of the ſize of a lark, and is very erect and majeſtic in it's poſition, when on foot: the head is round and moderately large; the beak is ſmaller, in proportion even to the ſize of the bird, than in moſt of the Parrot-kind, but it is as much hooked as in any: the whole beak is of a deep blackiſh-grey colour, and the membrane which covers it's baſe is ſo little different from the reſt, that it is ſcarce perceived, but, on a cloſe inſpection, it is of a granulated ſurface, and the noſtrils ſtand near one another almoſt at it's baſe; they are of an oval figure, and are duſkier-coloured within, than any other part of the membrane.

The head is green, but juſt in the front it has an extreamly bright and beautiful ſpot of ſcarlet conſiderably large, and forming a kind of crown: the back and wings are of a bright ſhining green, but in the middle of the wing there are ſome beautiful variegations of yellow: the tail is ſhort, and ſcarce appears at all beyond the tips of the wings, when they are cloſed: the legs are of a greyiſh colour, and they are robuſt, though ſhort: the toes are ſhort, thick, and ſcaly; and the claws are very long, black, and ſharp.

This is a native of many parts of South America, and is ſometimes ſent over dried to Europe, among the other curious birds of that country. We had two ſpecimens lately ſold among ſome American birds in glaſs-caſes, at the auction of the late Duke of Richmond's curioſities; they were a male and female, and the only viſible difference was, that in the male the beak was of a fine bright fleſh colour. Marcgrave has mentioned it among his Braſilian birds, under the name of Tuipara; and Ray, Willughby, and others have preſerved the name, and ſome of the more obvious characters.

Pſittacus variegatus pectore ferrugineo.
The variegated Pſittacus, with a ferrugineous breaſt.

The Anaca.

This is one of the moſt ſingular, and alſo of the moſt beautiful, of the Parrot-kind; it is exactly of the form and figure of the common green Parrot, but it is not much bigger than a ſparrow: the head is large and round; the beak is not very large, but it is conſiderably hooked: the upper chap is longer than the under, and in all reſpects formed like that of the other Parrots: the whole beak is of a bright brown, but the membrane which covers it's baſe is greyiſh, and the noſtrils ſtand near one another, and are round: the eyes are large, and very bright and piercing; their iris is yellow, and the pupil black.

The head is of a browniſh colour, with a tinge of ferrugineous at the ſides, but on the top it is of a bright liver colour: the upper part of the neck and the ſides are green; the throat is grey, and the breaſt and belly are of a mixt colour, the principal tinge in which is a ferrugineous brown: the back is green, but in it's middle there ſtands alſo a large brown ſpot, like the colour of the breaſt, but not ſo much ferrugineous: the tail alſo is of a pale brown.

The wings are long; when cloſed, their extremities reach to the end of the tail; toward their top there is a very beautiful ſpot, which is of a bright blood colour in the male, and brown in the female; the middle part of the wings is green, but toward the extremity there is ſomewhat of a bluiſh tinge with it: the feathers which cover the thighs are of a bright pale green.

The legs are robuſt and moderately long; they are of a greyiſh colour: the toes are long and ſlender, and the claws are long, black, and ſharp: the whole foot is of a paler grey than the legs.

This is a native of South America; ſpecimens of it are often ſent over to us, and to France, among thoſe of other birds of that climate, preſerved in ſpirits, or by ſtuffing. Marcgrave has mentioned it under the name of Anaca; and Ray, Willughby, and others have followed him in it.

Pſittacus totus aureus cauda longa.
The long-tailed Pſittacus, all of a gold yellow.

The Quijubatui.

This is another extreamly ſingular, and extreamly elegant, bird: it is of the exact ſhape of the common Parrot, but it is not larger than a lark: the head is ſmall and rounded; the beak is large, in proportion to the ſize of the head, and is very much hooked, and of a grey colour: the membrane which inveſts it's baſe is of a fine bright red, and in this the noſtrils are very conſpicuous; they are round, and ſtand near one another at the baſe of the beak.

The eyes are large; their iris is ſaffron-coloured but narrow; the pupil is very large and black, and there is a naked, granulated ſkin about them.

The head and the whole body, back, breaſt, and wings, are all of a fine gold yellow, extreamly bright and gloſſy, except that the extremities of the wings only are of a duſky greeniſh: the tail is long, and is of a bright and very beautiful yellow.

The legs are robuſt and ſhort, and are of a beautiful fleſh colour: the toes are long and ſcaly, and the claws are very long, ſharp, and black.

This is a native of many parts of South America, and is frequently brought alive into Europe: it becomes very tame and familiar, and eaſily learns to imitate the human voice, and other ſounds. Marcgrave has deſcribed it under it's Braſilian name Quijubatui; and moſt of the late writers on birds have continued it under the ſame denomination, though few of them ſeem to have known any thing more of it than what they learned from that author's ſhort deſcription.

Pſittacus ruber alis viridi et nigro variegatis.
The red Pſittacus, with the wings variegated with black and green.

The ſcarlet Parrot.

This is an extreamly elegant but ſmall ſpecies; it is not larger than a blackbird: it's head is ſmall, round, and very prominent on the crown: the eyes are large and very bright, their iris is yellow: the beak is large, and very much hooked; it is of a yellow colour, and the membrane at it's baſe is black; in this ſtand the noſtrils; they are round, large, and placed very near one another, and juſt under the forehead, at the very baſe of the membrane.

The

The head is of a very beautiful and bright ſcarlet, except that about the eyes there is a naked whitiſh ſkin: the back and breaſt, indeed the whole bird, excepting only it's wings, is of the ſame ſcarlet with the head, only that the colour is ſomewhat deeper on the back, and paler on the belly.

The wings are large and long, and are very elegantly variegated with green, black, and yellow: the long feathers are black, and the covering ones green; ſome of theſe are green throughout, others are only of this colour on their upper ſide, the under part being ſcarlet: the edge of each wing is of a bright yellow, and there is ſometimes alſo a little of the ſame yellow on the inner ſide of the wing, next the body.

The tail is about four inches long, and is compoſed of twelve robuſt feathers; they are all of them half red, and half of a greeniſh yellow, ſo that the upper part of the tail is of the greeniſh colour, and the lower half red: the legs are very ſhort, robuſt, and black, and above the knee they have ſome few green feathers on them.

This is a native of the iſland of Madagaſcar; our Eaſt India ſhips ſometimes bring it home, and we have them in London: no ſpecies of Parrots more readily learns to imitate the human voice. None of the ornithologiſts, except Willughby, have ſo much as mentioned this ſpecies, That author calls it Pſittacus coccineus alis ex viridi et nigro variegatis.

Pſittacus ruber alis coccineo viridi et aureo variegatis.

The red Pſittacus, with green, red, and yellow wings.

The changeable-coloured Parrot.

This is another extreamly beautiful, but ſmall, ſpecies of Parrots: the head is round and large; the beak is not ſo large, in proportion, as in moſt of the Parrots, but it is ſufficiently hooked; it is of a dark grey colour: the membrane which ſurrounds it's baſe is of a pale or aſh-coloured grey, and the noſtrils are very conſpicuous; they are two oval depreſſions ſtanding near one another, at the very top of the membrane: the eyes are large; their iris is of a ſilvery white, but the pupil is large and black.

The head is of a very beautiful roſe colour, with ſome ſhade of blue, as it is viewed in ſome lights; and the feathers on the crown are long, and very beautiful, and the bird has a power of erecting them at pleaſure, ſo as to form a kind of creſt: the back and the upper part of the neck are of the ſame elegant red with the head, and are ſhaded in the ſame manner, with a flying tinge of blue diſpoſed, as we ſee it in the changeable ſilks: the breaſt and belly are of the ſame colour, only paler; and the belly has more of the blue than is to be ſeen any where elſe.

The wings are long, and extreamly beautiful; their ground colour is of a fine graſs-green, but they are variegated in the moſt elegant manner with red and yellow; and theſe colours are ſo diſpoſed and blended, that, on looking at the wing againſt a good light, there are an infinite variety of fine colours ſeen, ſuch as neither the pencil nor words can deſcribe.

The tail is very long; the bird is not larger in the body than a lark, but the tail is more than eight inches long: it is of the ſame elegant roſe colour with the body, but has a tinge not only of the blue, which is viſible on the body, but alſo of greeniſh and whitiſh.

The legs are ſhort, robuſt, and of an aſhy grey; the toes are long and ſcaly, and the claws are thick, not very long or ſharp, and black.

This ſpecies is very frequent in the woods in the inland parts of China, and elſewhere in the Eaſt. They fly together in large companies, and make a loud noiſe, as they

they fly: when tamed, they learn to imitate the voice very readily, and do it very agreeably. Many of the writers on birds have deſcribed this ſpecies. Bontius was the firſt; he has only called it Pſittacus parvus, and from him Ray, Willughby, and others have called it Pſittacus parvus Bontii.

Pſittacus totus niger.
The wholly black Pſittacus.

The black Parrot.

This is a very ſingular ſpecies, and, though of one ſimple colour, is not without it's beauty; it is of the ſize of our thruſh: the head is large, round, and prominent on the crown; the beak is very large; the under chap is ſtraight, but the upper one is much larger and longer than that, and is rounded on the back, and very hooked at the point, turning over the other a great way, ſo that in the whole it is almoſt of a ſemilunar figure: it is of a deep black colour, but the membrane which covers it's baſe is of a dark grey: in this are placed the noſtrils; they are two ſmall round apertures near one another, and ſituated at the baſe of the membrane.

The head and the whole body, as alſo the wings and tail, are all of a deep and very gloſſy black, without any the leaſt variegation; but the feathers are ſo gloſſy, and lie in ſuch regular and perfect order, that there is great beauty in the form and diſpoſition of them, and a peculiar look of cleanneſs about the bird.

The tail is very long and narrow, and is of the ſame deep black with the reſt of the bird: the legs are moderately long, and not ſo robuſt and clumſy as in the generality of the Parrots; they are of a deep iron grey, almoſt approaching to black: the toes are long and ſlender, and the claws are long, black, and ſharp.

This is a native of South America; it is very common in the woods there, and makes a very clamorous noiſe. Marcgrave has deſcribed it; he calls it Pſittaco congener avi Braſilienſium; and others have borrowed the ſame name.

B I R D S.

Claſs the Second.

P I C Æ.

Birds which have the beak convex and compreſſed.

R A M P H A S T O S.

THE beak of the Ramphaſtos is very remarkably large. In moſt ſpecies it is equal to the whole body in magnitude; there are no viſible noſtrils: the feet have each four toes, two of which ſtand forward, and the other two backward, as in the parrot.

Ramphaſtos urrhopigio coccineo.
The Ramphaſtos, with a red rump.

The Toucan.

This is an extreamly ſingular bird; it is of the bigneſs of our magpy, or hardly quite ſo large: the head is large, and is rounded at the ſides, but ſomewhat depreſſed on the crown: the eyes are very large, and ſtand in the middle of the head; they have a very piercing aſpect, and are of a ſingular ſtructure; the iris, properly ſo called, is yellow, but within this there is a circle of a ſilvery white ſurrounding the pupil, which is coal black, large, and round.

The



The Eagle Owl



The Asio



The Scops



The Grey Owl



The Osprey



The Little Owl



The Vulture



The Kestrel



The Buzzard



The Moor Buzzard



The Haggard Falcon



The Great Butcher Bird



The Green Parrot



The Parroquette

B. Cole Sculp.

The beak is the moſt ſingular part of the bird; there requires, indeed, a head of an extraordinary ſize to ſupport it: it is about ſeven inches long, and in the largeſt part is three inches broad; the under chap is much ſmaller than the upper: the beak is nearly ſtraight all the way, to near the extremity, but there it is ſomewhat bent: it has the appearance of an intolerable burthen to the bird, and it would indeed be ſuch, were it not provided by nature that all this ſize ſhould have but little weight. Though of a firm and bony texture, it's ſubſtance is as thin as a fine parchment, and it is all the way hollow; the great cavity within, and the thinneſs of the bony laminæ, letting the air through into that cavity, render noſtrils unneceſſary to this ſingular bird: the apertures formed for noſtrils, in the uſual way, would have weakened the tender ſubſtance of this enormous beak near it's baſe, and might have made it liable to break there, to the utter deſtruction of the bird; the air, however, finds a ſufficiently free paſſage into the cavity of the mouth, for the beak is denticulated all the way along at each ſide, and by this means is rendered incapable of ſhutting cloſely: the colour of this ſurpriſing beak is not uniform throughout; the upper chap is of a pale lemon colour, approaching to white; the under one is of a ſtronger yellow, and the tip of both is of a high red: the whole inſide of the beak is alſo red.

The head, the back, and the wings of this bird are black, but there is a light caſt of whitiſh diffuſed over them, more viſible in ſome lights than in others: the rump is of a very fine high crimſon: the breaſt is of an elegant and ſplendid yellow, with an admixture of a fiery red: the belly is wholly red, and the feathers that cover the thighs are of the ſame colour.

The wings are long, and have very little variegations; and the tail is all the way black, except at the extremity, where it is of a bright and elegant red.

The legs are robuſt and ſhort; the toes are long; they ſtand two forward, and two backward, and have long, ſharp, and black claws.

This ſingular bird is a native of South America, and of ſome parts of the Eaſt Indies; all the late writers on birds have deſcribed it. Thevet has figured it, and moſt who have followed him have copied his figure; Aldrovand calls it Pica Braſilica; Marcgrave, Tucana ſive Toucan Braſilienſibus; Nieremberg gives it it's Mexican name Xochitenacatl; we call it the Braſilian Magpy. We have ſpecimens of it often brought over, by way of curioſity, dried; and, by ſome very ſingular accident, a ſingle bird of this ſpecies was ſome years ago ſhot by a country ſportſman, on our own coaſts. It feeds on the fruits of the Weſt Indies, and is ſo tame and familiar with the natives, that it will breed in their houſes.

Ramphaſtos urrhopigio luteo.
The Ramphaſtos, with a yellow rump.

The Pepper-bird.

All four of the ſpecies of this ſingular genus are fond of pepper, but this eats it the moſt voraciouſly; the name of Pepper-bird has been thence applied to them all, but it is more appropriated to this; and, where any diſtinction is meant, this is the ſpecies intended by it; it is of the bigneſs of our jack-daws: the head is large and round; the eyes alſo are large; their pupil is round and black, and their iris of a ſtrong yellow: the beak is ſix inches, or more, in length, and is three in diameter at the baſe: it is ſomewhat hooked at the end, but very little ſo, and is denticulated along the ſides, and covered with a kind of ſcales that are eaſily raiſed by the finger: it is of a firm but very thin ſubſtance, the whole being only a hollow caſe, as it were, with a thin covering of a bony ſubſtance; it is of a yellowiſh colour throughout, deepeſt at the point, and paleſt on the upper part of the upper chap: there are no noſtrils viſible on it.

The head, back, and wings are black, only at the rump there is a tranſverſe band, as it were, of yellow: the tail is moderately long, and is black, but with a ſhade of purpliſh and yellowiſh.

The legs are ſhort, robuſt, and clumſy; the toes are long and ſcaly, and the claws black and ſharp.

This is very frequent in the South American iſlands, and in ſome parts of the Eaſt Indies. It feeds on the fruits in general, but on none ſo voraciouſly as on the ripe pepper; and the uſe of it's beak is ſeen on this occaſion, as it draws off the fruit from the cluſters, by means of it's length and denticulations, in a ſurpriſingly ready manner: few of the modern writers have been acquainted with this ſpecies. Barrilier deſcribes it under the name of Piperivora nigra urrhopigio luteo; Linnæus, in his Syſtema Naturæ, has borrowed the ſame name.

Ramphaſtos urrhopigio albo.
The Ramphaſtos, with a white rump.

This is ſmaller than either of the former ſpecies; it is indeed but about equal in ſize to the common field-fare: the head is large, and ſomewhat depreſſed on the crown: the beak is of the ſame immoderate ſize with thoſe of the former two ſpecies, and is of a pale yellow throughout: it is five inches in length, two and a half in diameter at the baſe, and very ſharp at the point: it is ſerrated all along the edges, and is of a fine gold yellow within.

The head, back, and wings are black, but with a ſhade of a ſilvery grey thrown over that colour: the breaſt is of an iron grey; the rump is white, and the belly alſo, toward the ſides, has ſome tendency to whitiſh: the legs are ſhort, thick, and ſcaly; the toes are long, and the claws ſharp.

It is a native of South America, and feeds on the ſpices and other fruits there; few of the authors who have treated of theſe ſubjects have named it. Barrelier has figured it under the name of Roſtrata nigra urrhopigio albo; and Linnæus has continued the name.

Ramphaſtos viridans roſtro variegato.
The green Ramphaſtos, with a party-coloured beak.

This ſpecies is ſomewhat ſmaller than a jack-daw, but it's body is thicker, in proportion to it's length: the head is large, and of an odd figure, much compreſſed at the ſides, ſomewhat depreſſed on the crown, and very broad at the front: the eyes are large, and their iris of a brown aſh-colour; the pupil is large and black; the beak is equal in length to the whole bird, head and body; it is but little crooked all the way to the point, where the upper chap hangs over the lower, and is more bent; it is ſomewhat prominent on the upper part of the back, and is all the way denticulated along the edges: it's colour is partly a bright but not very deep red, and partly a fine ſhining, gloſſy black; the red uſually takes it's place in the part next the head and the back, at the other extremity, but this is uncertain: ſometimes the whole lower chap is black, and the whole upper one of a coral-like red, except the tips; and ſometimes the colours form a clouded appearance, in the manner of a tortoiſe-ſhell. We have the beaks brought over by way of curioſity, and preſerved in our muſæums, and find all theſe varieties in them.

The body is, on the upper part, of a deep green, with a few ſmall and indiſtinct ſpots of white in it, which, when not ſeen ſeparately, give a general paleneſs to the whole, that makes it greyiſh; the breaſt and belly are of a ſomewhat paler greeniſh-grey; the wings are long, and the tail ſhort: the legs are ſhort, robuſt, and of a bluiſh colour: the toes ſtand two forward and two backward, and are ſhort and thick, and the claws black, ſharp, and long.

It is a native of the Molucca iſlands, and ſome other places in the warm climates, and is a great deſtroyer of the ſpices, and other valuable dry fruits. Barrilier has figured it under

under the name of Roſtrata viridans roſtro partim nigro, partim rubro; and Linnæus has borrowed the ſame name. Scarce any other of the naturaliſts have ſo much as mentioned it.

BUCEROS.

THE beak of the Buceros has, towards it's baſe, a large gibboſity riſing above the reſt of it's ſurface, and turning backwards at the point; and the upper chap of the beak is, in this genus, conſiderably longer than the under.

Buceros niger capite majore.
The black Buceros, with a great head. **The Indian Raven.**

This is an extreamly ſingular bird; it is of the bigneſs of a well-grown pullet, and in ſhape ſomewhat reſembles the crow-kind, whence, and from it's ſize, it has been called the Indian Raven: the head is remarkably large, as indeed it had need to be, for the ſupporting ſo enormous a beak; it is rounded at the ſides, but depreſſed on the crown: the eyes are not large; their iris is bluiſh, with a tinge of brown, and the pupil black: the beak is more ſurpriſing in ſize and ſhape than even that of the ſeveral ſpecies of the former genus. It is about nine inches long, and, in the largeſt part, at leaſt three and a half in diameter: it is nearly ſtraight, or but little bent; the upper chap is conſiderably the largeſt, and is very ſharp and firm at the point, where it is protended over the other, and is not bent much down in that part: on the upper part, toward the baſe, there grows a very large gibboſity or protuberance: it is not leſs than three inches in length, or an inch and a half in diameter; it is affixed all the way down to the back of the beak at it's baſe, but at the point it turns up, and bends backward, forming in the whole ſomewhat of the appearance of a horn growing down to the beak to it's extremity, and there turning up it's obtuſe point: the colour of this remarkable beak is a pale red, variegated with white; theſe colours are diſpoſed without any regularity, but the red takes up the greater ſhare.

The body of the bird, as well as it's head, neck, rump, and tail, are of a deep and very gloſſy black, without the leaſt tinge of any other colour: the wings are very long, and the tail is but ſhort: the legs are long, robuſt, and of a deep bluiſh-black; the toes are long, and the claws are remarkably long and ſharp.

It is a native of the Eaſt Indies, and of ſome parts of China and Tartary, but it is a very ſhy bird. It lives remote from cities, and uſually in the thick parts of foreſts, where there run brooks or large rivers through them; it is moſt frequently ſeen among the ſedge on the banks of theſe feeding on frogs and other water inſects. Few of the writers on birds have tolerably deſcribed it. Barrelier has figured it under the name of Hydrocorax niger. We have the beak frequently brought over to us as a curioſity, and kept in the muſæums of our collectors, under the name of the beak of the Indian Raven; and ſome years ſince the ſtuffed ſkin of one was brought to us, though much injured by accidents in the voyage.

Buceros cæruleo nigreſcens capite minore.
The bluiſh-black Buceros, with a ſmaller head.

It is not to be underſtood by the name of this ſpecies, but it's head is ſmall, in proportion to the body; ſuch an immenſity of beak as all the ſpecies of this genus have, could not be carried, without a head ſufficiently big for the ſupport of it; but as the head in the other is remarkably large, in proportion to the body, that of this ſpecies is no more than proportioned to it; the bird is of the bigneſs of our raven: the head is rounded, and but very little depreſſed on the crown; the eyes are ſmall, and their iris is bluiſh: the beak is about ſeven inches long; and, in the largeſt part that is about the middle of the gibboſity, it is near three inches in diameter: the upper

per chap of it is much longer than the under, and is ſharp and ſtrong; the gibboſity runs about one third of the length of the whole, beginning near the baſe; it is higheſt in the middle, though not much ſo, and it turns up at the point: the whole beak is elegantly variegated with a pale red, and a duſky white; the colours are in ſuch equal proportion, and ſo irregularly diſpoſed, that it is not eaſy to ſay which is the ground colour, and which the variegation.

The body of this ſpecies is thick, in proportion to it's length; the tail is moderately long, as the wings are alſo; when cloſed, they reach within an inch of the tip of it: the whole body is of the ſame uniform colour, which is a very beautiful one, and can no way be ſo well deſcribed, as by comparing it to that of a common black-beetle, on every part of which there is a fine and elegant tinge of blue ſhining over the black; the ſame elegant ſhade, but of a deeper blue, is caſt over the whole body of this bird: the legs are long and robuſt, and the toes long, and armed with ſharp claws.

This is a native of Tartary and China. Barrelier calls it Hydrocorax cæruleo-nigricans; no other writer has taken any notice of it: the beak is often brought over to us as a curioſity, and ſometimes, though very rarely, the whole bird.

Buceros ſubvireſcens.
The greeniſh Buceros.

This is an extreamly beautiful, as well as ſingular, bird; the head is larger than in the former, but not ſo remarkably large as in the firſt deſcribed ſpecies: the whole bird is not bigger than our common crow, but the neck is ſomewhat ſlenderer, and the legs longer: the head is depreſſed at the crown, but not at all flatted at the ſides: it has a very large quantity of feathers on it, and thoſe on the hinder part are long and ſlender, hanging a little way down the neck: the others are broad and ſhort, and both are capable of being elevated, though not quite erected at pleaſure, and in this ſtate the long ones form a kind of creſt: the beak is about five inches and a half long, and in the largeſt part is near three inches in diameter, the protuberance being larger, in proportion, than in any of the others: this is fixed down all along the upper part of the beak, except at it's point, where it turns up, and points a little backward; it is at leaſt three inches long, and conſiderably elevated above the reſt of the beak, but is not higher in the middle than elſewhere: the whole beak is ſomewhat curvated, but not much; the point is ſharp, and is formed only of the upper chap, the under terminating half an inch within it's extremity: the colour of the beak is white, only that the ridge of the upper chap, and the point of the horn, are a little reddiſh.

The head is of a deep greeniſh-caſt, but with an admixture of black: the body alſo is of a green colour, as viewed in almoſt any light; and yet this ſeems only a very ſtrong tinge of the changeable kind, like the blue in the former a black, though much leſs diſtinguiſhable, ſeeming, in reality, the ground colour, though this elegant tinge is ſo univerſally and ſtrongly diffuſed over it.

The tail is about three inches long; the wings are moderately long; when expanded, they ſpread to a great extent, but, when cloſed, they reach very nearly to the end of the tail; both the wings and tail are of the ſame green gloſſy hue with the body, but the black underneath is more diſtinguiſhable in theſe than elſewhere, and the green would be almoſt univerſally allowed in theſe parts to be a ſuperadded colour.

The legs are very robuſt, and moderately long; they are of a deep bluiſh-black, and the toes are long, ſcaly, and of the ſame colour, and are furniſhed with very long and ſharp claws.

This ſpecies is more rare than any of the former; it is only found in China, and no where there, except in the inland counties: we had a ſtuffed ſkin of it ſent over to

to England, about eight years ſince, a very great curioſity. It fell into the hands of a perſon in the city, who had a large collection of foreign birds, as well as thoſe of our own kingdom, dried.

None of the writers on theſe ſubjects ſeem to have been acquainted with it, unleſs Barrelier means it by the ſpecies which he has figured under the name of Hydrocorax virideſcens, but his figure does not perfectly agree with the ſpecimens ſent over to us. It frequents ponds, and, it is ſaid, feeds on fiſh; but probably it haunts them, for the ſake of the frog and newt-kinds, and other creatures which inhabit their ſhores, like the other of it's kind. The beak ſeems formed for ſtriking through the bodies of ſoft animals of this ſort.

CORVUS.

THE beak of the Corvus is of a convex and cultrated form; the upper and the under chaps are nearly equal in ſize, and the baſe is ornamented with a kind of ſetæ or briſtles.

This genus comprehends the jay and magpy-kind, beſide thoſe uſually underſtood by the name Corvus, the crow, raven, and jack-daw tribe. Theſe ſometimes ſimply called Picæ, are carefully to be diſtinguiſhed from the Picus, a genus heretofore too nearly approaching to them in name, though quite different in form and manners.

Corvus ater dorſo cæruleſcente.
The black Corvus, with a blue back. **The Raven.**

This is a bird of no great beauty, but it's ſize diſtinguiſhes it among the crow-kind; it is of the bigneſs of a common hen: the head is ſmall, in proportion to the body, and is ſomewhat depreſſed on the crown, and flatted at the ſides: the eyes are large, and very bright and piercing; the beak is conſiderably large: it is two inches long, moderately thick, ſomewhat ridged on the back, and ſharp at the point, and the under chap is very little either ſhorter or narrower than the upper: it is of a duſky blackiſh colour.

The head is black, with a ſlight tinge of a duſky blue, viſible only in ſome lights; in others it is totally and invariably black: the neck, back, and rump are alſo of a deep black, but they have a very ſtrong and elegant tinge, of the ſame blue with that of the head, and is on theſe parts viſible in all lights and all directions: the breaſt and belly are perfectly black: the wings are long, the tail is but ſhort; when the wings are cloſed, their tips reach nearly to it's extremity: the legs are robuſt, and of a bluiſh-black, and the toes are long and ſlender; the claws are black, and are not very long, nor very ſharp.

The long feathers of the wings are twenty in number in each, and the two exterior ones in each wing are ſomewhat ſhorter than the others: the large feathers of the tail are all of a length.

This is a very common bird with us; it builds in high trees, and makes it's neſt in a careleſs manner, but it is very bold in the defence of it's young. It has a remarkably quick ſcent; it's food is principally carcaſſes, and it will ſmell them at a great diſtance. When the air is clear, we often ſee it entertaining itſelf with flying to a ſurpriſing height. It's voice is naturally hoarſe but loud; it will be kept tame about houſes, and will learn to imitate the human voice in the manner of the parrot, and does it very articulately: it will alſo mimic the notes of other animals more nearly than any other of the talking birds.

Corvus ater.
The wholly black Corvus.

The Rook.

This is ſomewhat ſmaller than the raven, though a large bird; it is equal in ſize to the biggeſt of our tame pigeons: the head is ſmall, and ſomewhat flatted on the crown, but rounded at the ſides: the eyes are large, but not very bright and piercing; the beak is moderately long and pointed; it is of a browniſh-black colour, but toward the baſe it is often whitiſh; it is naturally covered there with a kind of ſhort briſtles, but, in thruſting the beak into the ground in ſearch of worms and other food, theſe are frequently rubbed off, and the naked ſcull appears whitiſh: the noſtrils are round, and ſtand at ſome little diſtance from one another; the tongue is long, thick, and whitiſh, and is bifid at the end.

The head, neck, and the whole body are of a deep gloſſy black, without any tinge of bluiſh: the long feathers in each wing are twenty; of theſe, the fourth from the verge is the longeſt: the ſcapi of the ſmaller remiges, in the middle of the wing, terminate in a kind of ſpines or ſhort briſtles: the tail is moderately long, and is compoſed of twelve feathers, the outer ones of which are ſomewhat ſmaller than the middle ones: the whole bird is of a deep black colour.

The legs are robuſt, and moderately long; the toes alſo are long, and armed with ſtrong and ſharp claws; but the claw of the hinder toe is much larger and ſtronger than thoſe of the others, and the outer of the three anterior toes adheres for ſome ſpace to the middle one.

This is very frequent in all the northern parts of Europe; with us, it builds in high trees, and that frequently about houſes, where it was once a cuſtom to encourage them, as the noiſe in the building-time was thought very pleaſing. It feeds promiſcuouſly on animal and vegetable ſubſtances; fruits are the principal food, but it eats alſo worms and other inſects.

The buſineſs of building the neſt and hatching the young is carried on mutually by the male and female; the one ſits on the eggs as well as the other, and, in the fabricating of the neſt, the one keeps poſſeſſion, while the other goes to get the materials for finiſhing it, otherwiſe the neighbouring ones ſteal away every thing that is left to aſſiſt in their own. This bird, though encouraged in it's produce by the gentlemen, is miſchievous in a very great degree to the farmers, and they are at a great expence to drive them from their fields.

Corvus ater oculis magnis, naribus ſetis reflexis obtectis.
The black Corvus, with large eyes, and reflex briſtles at the noſtrils.

The Carrion-crow.

This is of the ſize of the largeſt tame pigeon, and is all over of a deep and fine black colour: the head is ſmall, and ſomewhat flatted on the crown; the eyes are large, and of a very piercing aſpect: the beak is long and robuſt, and of a blackiſh colour; and the tongue is hard, firm, and divided at the extremity.

The wings are very large; they meaſure more than two feet from tip to tip, when extended: the long feathers of each are twenty; the three firſt of theſe are gradually ſhorter than the fourth; this is the longeſt of all, and from it the others gradually ſhorten again: the legs are long, and moderately robuſt; the toes are long and ſtrong, and the claws are long, black, and ſharp: the noſtrils are ſmall and oval; they are placed in the upper part of the membrane, which covers the baſe of the beak, and are covered with ſhort and crooked briſtles.

This

This ſpecies is very common with us; it builds in high trees, and lays four or five eggs. It feeds like the raven on carcaſſes, and ſmells them from a very conſiderable diſtance. It may be kept tame in the manner of the raven, and will learn to imitate the human voice: the knowledge of this is as old as Pliny, who mentions one famous for it in his time. Moſt of the writers on birds have deſcribed it. Ray, Willughby, and others call it Cornix.

Corvus capite, gula, alis, caudaque nigris, trunco cineraſcente.
The Corvus, with the body grey, and the head, throat, wings, and tail black.

The Royſton-crow.

This ſpecies is ſomewhat larger than the common rook: the head is ſmall, and is ſomewhat flatted on the crown; the eyes are large, and their iris is of a hazel brown, with ſome admixture of grey: the beak is large, ſtrong, and ſmooth; it is of a ſhining gloſſy black throughout, except at the top, where it is white.

The head and throat, down to the breaſt, are of a deep and beautiful black; the wings alſo are black, of a gloſſy hue, and with ſomewhat of a bluiſh caſt: the breaſt and belly, and alſo the back, and the upper ſide of the neck, are grey; but the ſcapi of the feathers, even on theſe parts, are black, and the back is of a ſomewhat duſkier or deeper grey than the belly.

The wings are long and large; the long feathers in them are twenty to each; of theſe the firſt is the ſhorteſt, and the third and fourth are the longeſt: the tail conſiſts of twelve large feathers; the two middle ones of theſe are the longeſt, and the others become gradually ſhorter to the edges, but the diminution in length is but inconſiderable.

The legs are long, robuſt, and black; the toes are long and ſtrong, and the hinder one is much larger than any of the others: the outer of the three fore-toes is equal in length to the middle one, and is connected to the middle one near it's baſe: the noſtrils are round, and are covered with briſtles.

This ſpecies is leſs frequent with us than the others, but it breeds annually in ſome parts of the kingdom in great abundance: it is fond of the tops of hills and thick woods, but in the hard weather, in winter, it comes down into the low grounds. They are very common on the high downs in Suſſex, and on Newmarket-heath, and particularly ſo about the town of Royſton, from which they have obtained their Engliſh name: moſt of the writers on birds have deſcribed the ſpecies. Aldrovand calls it Cornix cinerea frugilega; Willughby and Ray continue the ſame name to it; and ſome call it ſimply Cornix cinerea. It is a very coarſe feeder; it eats carrion and inſects of all kinds, and, like the rook, will alſo feed on fruits; it often frequents the ſea-ſhores, and will there prey upon ſuch ſhell-fiſh as it can get open.

Corvus fronte nigra, occipite incano, corpore nigro fuſco alis caudaque nigris.
The Corvus, with a black and grey head, a browniſh-black body, and black wings and tail.

The Jack-daw.

This is one of the ſmalleſt of the crow-kind, but it is a very erect and well-ſhaped bird: the head is large, and flatted on the crown; the eyes are large, and have a piercing aſpect; their iris is whitiſh, and the pupil large and black: the ears are large alſo, and more conſpicuous than in moſt of the others: the beak is large, long, and robuſt; it is of a blackiſh colour, and the baſe is covered half-way down, with plumules bent forwards; among theſe are ſituated the noſtrils, which are round, and ſtand high: the front of the head is black, but the hinder part is grey, and that colour extends itſelf down to the middle of the neck: the breaſt and belly are greyiſh; the back

back has a tinge of browniſh, and the wings and tail are black: the black in this kind is very bright and gloſſy, and has ſomewhat of a bluiſh tinge diffuſed over it.

The long feathers in each wing are twenty; of theſe the outer one is not half ſo long as the ſecond, and the third and fourth are longeſt of all: the tail conſiſts of twelve long feathers; the two middle ones of theſe are a little longer than the others, but the difference is inconſiderable.

The legs are moderately long and ſlender; the toes are long, and the hinder one is much longer and larger than any of the others: the claws are large and black, but not very ſharp; and the claw of the hinder toe is alſo conſiderably longer than that of any of the others.

This ſpecies is very common with us; they are continually ſeen flying about old churches, and other high ſtone buildings, making a loud noiſe; they build in theſe places, and ſometimes, though more rarely, in trees. Almoſt all the writers on birds have deſcribed the ſpecies. Willughby and Ray call it Monedula ſive lupus; others, ſimply, Monedula. It feeds on inſects and fruits, and it may be kept tame, and learned to imitate the human voice.

Corvus dorſo ſanguineo, remigibus nigris, rectricibus viridibus.
The Corvus, with a blood-red back, a green tail, and black wings.

The Roller.

This ſpecies, though very beautiful in it's colouring, is the leaſt conſiderable in it's ſize of any of the Corvus-kind; it is ſmaller than the jack-daw, but it is very like it in ſhape: the head is large, and is ſomewhat flatted on the crown: the eyes are large and piercing; their iris is whitiſh, and the pupil black; there is a naked ſpace about the eyes, and above them there ſtand alſo two large and naked tubercles: the beak is large, long, ſtrong, and black; the tongue is black, and lacerated at the end, and the palate is green.

The head is of a deep bluiſh-black, with a caſt alſo of green in it: the middle and upper part of the back are of a blue colour alſo, with a very ſtrong tinge of a blood-red; and the rump, as alſo the ſmaller and inner covering feathers of the wings, are of a fine ultramarine blue: the breaſt is of the ſame greeniſh-blue with the head; there is a deep tint of black at the bottom of this gloſſy and varied colour, and there are ſome variegations of white in tranſverſe lines, on the ſcapi of the feathers on the breaſt: the belly is of a pale and not very elegant bluiſh-grey.

The long feathers of each wing are twenty in number, and the lower half of all theſe, except the firſt, is blue, and the upper half black; the exterior ones are wholly black, except that there is a little bluiſh toward the edges: the tail is formed of twelve feathers; the ten middle ones of theſe are all of the ſame length, but the two exterior ones are about a finger's breadth longer than theſe: the colour of the tail is variable, but in moſt lights it appears green: when the feathers are examined ſeparately, the two middle ones appear of a greyiſh-blue, and thoſe next to theſe are of a whitiſh-blue toward their extremities, and the ſucceeding ones have more of this pale colour: the reſt of the feathers appear bluiſh or greyiſh in the interior, and blackiſh in the exterior ones; the extremities of the two outer ones are black, and, in the general, whenever the feathers are black on the upper ſide, they are of an elegant blue on the under.

The legs are ſhort, and reſemble thoſe of the pigeon in form, but they are of a duſky yellow colour: the toes are long, the middle one conſiderably the longeſt, and the claws are black; that of the middle toe is on the inner part ſharpened into a kind of edge, and all the toes are divided quite to the baſe.

This

This is a native of the Eaſt, and of many other parts of the world; alſo they have it in Italy, but not common; and it is met with in ſome parts of Germany, particularly about Straſburg. It feeds on inſects: almoſt all the writers on birds have deſcribed it, though many, who have done ſo, ſeem never to have ſeen it. Geſner calls it Cornix cærulea; Aldrovand, Cornix cærulea and Garrulus Argentoratenſis; Willughby, Wormius, and others, Cornix cærulea. I once ſaw one of this ſpecies in Charlton-foreſt in Suſſex, but was not able to ſhoot it. I think it the moſt beautiful of all the European birds.

Corvus variegatus, tectricibus alarum cæruleis, lineis tranſverſis albis nigriſque.
The variegated Corvus, with the covering feathers of the wings blue, variegated with black and white.

The Jay.

This is a very beautiful ſpecies, but it comes in no degree of competition with the former: the head is moderately large; the whole bird is about the ſize of a common pigeon, but the head is conſiderably bigger than in that bird: the eyes are not very large, but they have a very piercing and a very ſprightly aſpect; their iris is whitiſh, the pupil black and large: the beak is large, ſtrong, and black: the noſtrils ſtand toward the upper part of the membrane that inveſts the baſe of the beak, and are oval and moderately large; the tongue is black, and is bifid at the extremity.

The whole plumage of this bird is very delicate, and the feathers have a kind of erectneſs, which is not uſual in any of the ſpecies: the head is of a very beautiful greyiſh-brown, and there are two black ſpots near the baſe of the lower chap of the mouth: the throat and the lower part of the belly are white; the ſhoulders and the breaſt are of a ferrugineous brown, but pale, and with ſomewhat of a bluſh of a pale red, or fleſh colour, intermixed, which makes the whole very beautiful: the forepart of the head is paler than the hinder, and has ſome longitudinal black ſtreaks on it: the middle part of the back is of the ſame reddiſh brown with the ſhoulders, but with ſomething of blueneſs in it, which is not obſervable in that part; and the rump is white.

The wings are moderately large; the long feathers in each are twenty: of theſe, the firſt is not more than half as long as the ſecond, and the fourth is the longeſt of all: the firſt of them is black throughout, except that the lower part is white, but this is the caſe only in that; the ſix ſucceeding ones are greyiſh on the outer ſide, and the three ſucceeding ones have ſome tinge of blue, and have ſeveral tranſverſe ſtreaks of blue and of black on the lower part; the others are in part black and in part white, and the ſixteenth feather is elegantly variegated with tranſverſe lines of blue, black, and white; the ſeventeenth is black, and has only a few ſpots of blue; and the eighteenth is black, with only a little variegation, which is reddiſh; the nineteenth is reddiſh, and it's tip is black: the underſide of all theſe is brown, but that of the laſt is of the ſame colour with the upper ſide: the firſt fifteen of theſe long feathers are covered by a number of very beautiful ſhort feathers, which are of the moſt bright and ſplendid blue, variegated with lines of black and white; the ſurface of this part of the wing is ſo gloſſy, and the colours are ſo bright, that it has the appearance of enamel; the other covering feathers are black.

The tail is moderately long, and is compoſed of twelve feathers: the legs are ſhort, and not very robuſt; they are of a duſky ferrugineous colour; the claws are long, but not very ſharp; that of the middle toe is longer than any of the others; the hinder one is as long as the outer one of the anterior three, and the claw of it is longer than that of any of the others: the outer toe is connected to about a third of it's length to the under one.

The male and female in this ſpecies differ ſo very little, either in ſize or colouring, that it is hard to know them aſunder.

It is a native of moſt parts of Europe, and has been deſcribed by all the authors who have written on birds. Geſner calls it Pica glandaria ſive garrulus avis; Ray, Willughby, Aldrovand, and others Pica glandaria: it feeds on vegetable fruits. It has it's name from it's eating of acorns, but the whole race of our wild fruit-trees ſupply it: it is particularly fond of the black-berries, and other of the ſofter fruits. It is frequently kept in cages, and will learn to imitate the human voice.

Corvus cinereus cauda aliſque nigris.
The grey Corvus, with the wings and tail black.

The Caryocactes.

This ſpecies is ſomewhat ſmaller than the jay: the head is ſmall; the eyes are moderately large, and their iris is of a hazel colour: the beak is long, ſtrong, and obtuſely pointed, and the upper chap is ſomewhat longer than the under: the tongue is ſhort; it ſcarce reaches indeed beyond the angle of the mouth, and it is bifid at the end, and the diviſion is more deep than in any other bird; from the extremity of the tongue to the very end of the beak, there runs a kind of ligament of a wrinkled ſurface, which fills up the channel in which the tongue would otherwiſe lie, ſo that it is evident that the tongue never can be extended farther than it's common dimenſions: the lower part of the palate, and the ſides of the fiſſure, are hairy; and the noſtrils which ſtand in the upper part of the membrane, that covers the baſe of the beak, are round; they are placed at a diſtance from one another, and are ſurrounded, and, in a manner, hid, by a quantity of ſhort and reflex white briſtles.

The whole body, as well on the upper as the under part, is of a duſky reddiſh-brown, very elegantly variegated all over with moderately large ſpots of a ſnow-white, and of a regular triangular figure: there are none of theſe ſpots, nor indeed any variegations at all, on the head: the breaſt and belly have more of the red mixed with the brown than the back, and the ſpots on the breaſt are larger than thoſe on any other part: there is a ſpace between the eyes and the inſertion of the beak, which is white, and the feathers under the baſe of the tail are alſo of a ſnow-white.

The long feathers of the wings are black; the tail is moderately long, and is compoſed of twelve feathers; the two outer ones are half white, but in the others the white has a ſmaller and ſmaller ſhare, till at length it wholly diſappears in the middle ones: the part of the feathers, which is not white, is of a fine deep, gloſſy black; and, in ſome birds of this ſpecies, the tail has been obſerved wholly of this ſhining black.

The legs are moderately long, and very robuſt; they are of a very deep bluiſh-black, and of a gloſſy ſurface: the toes are long and ſlender; the outer one is fixed to the middle one, by a membrane toward it's baſe: the claws are long and black, and that of the hinder toe is longer than that of any other.

This ſpecies is a native of Germany, and many other parts of Europe, but it has not been ſeen in England: it feeds on fruits, and it's voice is like that of our magpy. Moſt of the authors who have treated of birds have written on it. Geſner calls it Caryocactes, and Ray gives it no other name; Willughby calls it Caryocactes Geſneri et Turneri.

Corvus cauda cuneiformi.
The Corvus, with a cuneiform tail.

The Magpy.

This is a very well-known bird, and when in full feather, and in it's wild ſtate, has a great deal of beauty; we ſee it to much diſadvantage, when kept in cages, where it is always dirty, and uſually out of health; it's weight is about eight ounces; the ſize of it's body is about that of the jack-daw, but it's variegated wings and length of tail make it ſeem larger: the head is moderately large; the eyes are bright and piercing, their iris is of a pale hazel; the pupil is black, and there is a yellow ſpot viſible

ſible on the nictitating membrane: the beak is moderately long, very ſtrong, black in colour, and pointed; the upper chap is prominent on the back, and a little bent: the tongue is black, and is divided into two parts at the extremity; the ſides of the fiſſure of the palate are hairy.

The head is of a fine deep black, but with a ſhade of a changeable blue, with a mixture of green thrown over it: the neck, the throat, the back, and the lower part of the belly, are alſo of the ſame deep black, with the ſame variegating colour diffuſed over them, only the lower part of the back, toward the rump, is greyiſh: the breaſt is of a fine and delicate ſnow-white; the ſides are alſo ſnow-white, and the feathers which cover the firſt joint of the wings are alſo of the ſame bright colour.

The wings are ſhorter than in almoſt any other bird of the ſame ſize, but their long feathers, as alſo thoſe of the tail, are of the ſame black with the head, ſhaded over with the changeable green or blue tinge, in more ſtrength than any other part; and there is often, when the bird is in high vigour, a kind of deep purple, diffuſed among the green and blue, in this ſhading variation.

The long feathers in the wings are twenty; to each of theſe the outer one is not half ſo long as the ſecond, this alſo is conſiderably ſhorter than the third, and the third than the fourth; but the difference in the length is not ſo much in theſe, as between the firſt and ſecond; the fourth and fifth are longeſt of all: the eleven firſt feathers are all ſtained with white; this is in a larger proportion in the foremoſt, and becomes leſs and leſs in the others, till in the eleventh, inſtead of occupying the greater part of the feathers, the white is no more than a ſpot.

The tail is very long, and of a ſingular ſhape and ſtructure; it is compoſed of the uſual number of feathers, that is, twelve; the two middle ones are greatly longer than the other ten; theſe became gradually ſhorter, till the exterior ones are very inconſiderable, in proportion to the others: the whole tail is of a cuneiform figure; and the two principal or middle feathers are of a mixed greeniſh, purpliſh, and bluiſh hue, with a deep black for the ground colour under all. The lower part of each is purpliſh, and the very tips are blue.

The legs are ſlender, not very long, and black; the toes are long, and the outer one is joined, toward the baſe, to the middle one; the claws are long and black, and that of the hinder toe is conſiderably longer than any of the others.

This is a very common bird with us, but it is ſubject to ſome variations in colour, under which it makes a very ſingular appearance: it is ſometimes met with of an uniform brown throughout, and ſometimes quite white, but theſe variations are rare. It builds with us in trees, and ſometimes in tall hedges. The neſt is of a very ſingular ſtructure; it is not open at the top, as thoſe of moſt other birds, but is covered cloſe on every part, only a narrow entrance being left in one place for the bird to go in at; and the whole is guarded from attacks, by being covered with ſharp thorns, the points of which are turned outwards. It lays five, ſix, or ſometimes ſeven eggs; they are ſomewhat ſmaller than thoſe of the rook, and are of a pale colour, ſpotted with red. It feeds on inſects and on fruits, but it is a bold bird, and ſometimes invades the properties of thoſe which are expreſſly carnivorous: it is frequently ſeen to attack ſparrows; and Ray, an author of undoubted veracity, declares, that he ſaw one ſeize on a thruſh, and eat it. All the writers on birds have mentioned it. Moſt of them, ſimply, under the name of Pica; ſome under that of Pica varia and Pica caudata.

Corvus niger roſtro longiore rubente.
The black Corvus, with a long red beak.

The Cornish Chough.

This ſpecies is about the ſize of the jack-daw, and is not unlike it in figure: the feathers ſtand more looſely and irregularly on it than on that ſpecies, and it thence looks larger, but their weight is about equal: the head is moderately large, and is flatted on the crown; the eyes are large, and of a very piercing aſpect; the beak is very ſingular, both in it's figure and colour; the upper chap is ſomewhat longer than the under; the whole beak is ſomewhat longer, in proportion, than in any of the Corvus-kind, and is ſtrong, and not very ſharp at the point: the colour is throughout a bright and beautiful red; the membrane which inveſts the baſe of it is of the ſame colour, but deeper, and in this ſtand the noſtrils; they are of a roundiſh figure, but approaching ſomewhat to oval, and are ſurrounded by ſhort and curled briſtles inſtead of feathers.

The body is ſlender, in proportion to it's length; the feathers, however, ſtand ſo looſe, that this is not ſo readily perceived; the whole is a deep black, without any variegation: there is, indeed, a ſhade of a deep purpliſh, changeable hue, diffuſed over the back and breaſt, but the abſolute black is the ground colour throughout: the long feathers of the wings are twenty in each, and they are of a deeper black than thoſe of the body: the tail is moderately long, and is compoſed of twelve feathers, and theſe alſo are of the ſame deep black, but with a ſingle tinge of the purple diffuſed over them: the lower part of the belly is darker than any other part.

The legs are moderately long and ſlender; they are of a fine bright ſcarlet, and the feet are of the ſame colour: the toes are long and ſcaly; the claws are not very long, but they are ſharp, and of a deep black, and that of the hinder toe is longer than any other.

It is a native of all the northern parts of Europe; with us, it is very common about the rocky cliffs of our ſhores, and about high buildings that are near the ſea. It is no-where ſo frequent as in Cornwall, whence it obtained it's name of the Corniſh Chough. Authors have deſcribed it under the different names of Coracias and Pythocorax. It's voice is like that of the jack-daw, and it makes the ſame inceſſant noiſe. The children about our ſea-coaſts ſometimes breed it up tame, and learn it to imitate the human voice, which it does very happily. All the Corvus-kind, indeed, have organs for the doing this, and many other birds, which nobody has ever thought of inſtructing.

Corvus vireſcens capite variegato.
The greeniſh Corvus, with a variegated head.

The green Pagpy.

This is an extreamly ſingular, and alſo an extreamly beautiful, bird; it is of the ſize of the common jay, and greatly reſembles it in ſhape, but nothing can be more different than it's colours from thoſe of that bird: the head is moderately large, a little compreſſed, and conſiderably flatted on the crown: the eyes are not large, but very piercing in their aſpect; their iris is of a gold yellow, and their pupil black: the beak is about three quarters of an inch long, not very thick, ſtraight, and pointed at the extremity, and both chaps of it are very nearly equal: the noſtrils ſtand toward the top of the membrane that inveſts it's baſe; they are round, and are placed at a ſmall diſtance from one another, and are ſurrounded by ſome ſhort, curled feathers.

The head is of a deep cheſnut-brown on the crown, and the ſame colour extends itſelf down ſome part of the neck behind, but, at the ſides near the eyes, it is of a very elegant gold yellow: the reſt of the neck is of a pale brown; and the whole body, back, breaſt, and belly, are of a very elegant and ſhining green, ſomewhat like

like that on the body of the common parrot: the wings are long, and they have each twenty long feathers; the two firſt of theſe are ſhorteſt, the third is longer conſiderably, and the fourth is longeſt of all: theſe have ſome brown about them, but the covering feathers of the wings are green, and that a colour not at all inferior to the moſt elegant tint of the back.

The tail is moderately long; it conſiſts of twelve feathers, and of theſe the two middle ones are the longeſt; they are all of a deep and fine green, only that toward their extremities; the middle ones, eſpecially, are of a browniſh tinge, like that of the crown of the head.

The legs are moderately long and brown; the toes are long, ſlender, and ſcaly; the outer of the three anterior ones of each foot is connected for about a third of it's length to the middle one, but the claws of all of them are black, long, and obtuſe; but that of the hinder toe is longer than any of the others.

It is a native of Italy, and frequents the ſea-coaſts, but it is not very common. It is not certain that any of the ornithologiſts have deſcribed it. Aldrovand mentions a ſpecies of Pica, according to his diſtinctions, which he calls Pica marina; and his deſcription, ſo far as it goes, ſeems in moſt things to agree with this bird, but it is too imperfect to form any certain judgment on. When wild, it flies about very ſwiftly, making a loud and hoarſe noiſe, but it may be kept tame; and we are told, that ſome which have been ſo have very happily imitated the human voice. There is a ſtuffed ſkin of this in Sir Hans Sloane's Muſæum.

Corvus nigro et flavo variegatus roſtro albicante.
The black and yellow Corvus, with a white beak.

The Perſian Magpy.

This is a larger bird than either our magpy or jay, but it approaches conſiderably to the jay in figure: it's head is ſmall and rounded, but a little compreſſed: the eyes are large, and very bright and piercing; their iris is yellow, and the pupil black: the beak is moderately long, but not very robuſt; it is pointed at the extremity, and the upper chap is a little longer than the under: the membrane which covers the baſe of it is of a greyiſh-brown, and in that ſtand the noſtrils; they are of a roundiſh but ſomewhat ovated figure, and are covered by a number of ſhort and curled plumes.

The head is altogether black; the back alſo is black, and the breaſt and belly, though ſomewhat browniſh, approach to the ſame colour: the rump is of a fine gold yellow; and the feathers on the wings, which anſwer to the variegated blue ones on the wings of our jay, are in this ſpecies of the ſame gold yellow: the wings are ſhort, and have each twenty principal feathers, of which the fourth and fifth are longeſt: the tail is moderately long, and is of a deep black, only ſome of the feathers toward the baſe have a little yellowiſhneſs about them.

The legs are ſhort and ſlender; they are of a greyiſh-brown: the toes are long and ſcaly, and the claws of all of them are long and black, but that of the hinder toe is longer and ſharper than the others.

This ſpecies is a native of Egypt, and ſome other parts of the Eaſt. It has not been deſcribed by any of the authors, except the Pica Perſica of Aldrovand be it; but his deſcription is very imperfect.

Corvus cauda longa, roſtro rubente, capite cæruleo.
The long-tailed, blue-headed Corvus, with a red beak.

The Chineſe Magpy.

This is a very beautiful bird, and, though perfectly unlike to our magpy in colours, yet it ſo greatly reſembles it in ſhape, that nobody would fail at ſight to call it by that name; it is of the bigneſs of a common pigeon: the head is moderately large; the eyes are ſmall, and their iris is hazel; there is a ſmall naked ſpace of a fleſh colour round about them, and a little naked tubercle alſo, at ſome little diſtance above each: the beak is three quarters of an inch long; it is ſtraight and tolerably ſtrong; both chaps are nearly equal in ſize, and it is pointed, but not very acutely at the end: it is throughout of a bright and ſtrong red, but the tip is deeper than any other part: the membrane which inveſts it's baſe is alſo red, and the noſtrils which ſtand in the upper part of this are ſmall and roundiſh, and are covered by little twiſted plumules.

The head and neck are of the moſt beautiful ſky blue; the back wings and tail are of a very deep colour, approaching to black, but with ſome blue, and alſo a caſt of greeniſh in it: the breaſt and belly are of a ſnow white.

The wings are ſhort, ſo that the bird flies in a noiſy, fluttering manner, but yet very ſwiftly: the long feathers are twenty in each, and of theſe the third and fourth are the longeſt; they are all of a deep black, but there is ſome flying tinge of bluiſh thrown over the whole wing.

The tail is very long, and is compoſed of twelve feathers, and in all reſpects exactly reſembles that of the magpy: it is throughout of a blackiſh colour, but with a flying tinge of a mixed blue and green over it.

The legs are moderately long and ſlender; they are of a fine bright ſcarlet, and the feet are of the ſame colour, only a little paler, or more dead: the toes are long and ſlender; the claws are very long and ſharp, and are of a coal black; that of the hinder toe is much longer than any of the others.

This ſpecies is a native of China, and of ſome other parts of the Eaſt; it is much eſteemed by the natives, and is taught to imitate the human voice; the wild notes are not diſagreeable: ſcarce any of the writers on theſe ſubjects have mentioned it. Charleton, in his Onomaſticon Zoicon, mentions a bird under the name of Pica caudata Indica ſeu Japonenſis, which may probably be the ſame with this ſpecies; but there is not enough ſaid to aſſure us of it. No other writer ſeems to have had any notion of ſuch a ſpecies.

Corvus fuſco ſubrubeus capite albido.
The browniſh Corvus, with a whitiſh head.

The Indian Jay.

This ſpecies as remarkably reſembles the common jay in it's figure and ſhape, as the former does the magpy, but it is ſmaller; it is of the ſize of a fieldfare: the head is large, in proportion to the body, and is rounded at the ſides, but ſomewhat depreſſed on the crown: the eyes are ſmall, and their iris is of a fiery red; they are ſurrounded with a naked ſkin, and there are a couple of naked tubercles, one on each ſide the head, a little above them: the beak is ſhort but ſtrong, and is obtuſe at the point, and both the chaps are of the ſame length: the whole beak is of a pale whitiſh-brown, and the membrane which covers the baſe of it is of a bluiſh-grey: in this ſtand the noſtrils; they are large, round, and there grow a great number of ſhort and ſtiff briſtles about them: the tongue is ſhort and bifid at the end, and the inſide of the mouth is of a pale yellowiſh or lemon colour.

The head is of a very pale whitiſh-brown: the neck is of a ſomewhat darker brown, and the back and ſhoulders are of a deeper brown, with a tinge of red in it: the

the breaſt and belly are nearly white; they have much the ſame colour indeed with the head, but that there is ſomewhat of reddiſh in it: the rump is paler than the reſt of the body, and the lower part of the belly, between the thighs, and under the root of the tail, is white.

The wings are ſhort, and yet the bird is a ſwift flier; the long feathers in each are twenty in number, and of theſe the fourth is the longeſt: the firſt is very ſhort; they are all of a deeper brown than the reſt of the body, and are tipped with a yet duſkier colour at the ends: the covering feathers of the wings have ſome variegations of yellow and brown about the part where, in our jay, there are the blue feathers.

The tail is ſhort; it is compoſed of twelve feathers, all of a deep brown, but ſomewhat duſkier at the tips than elſewhere: the under part of the tail is ſomewhat paler than the upper.

The legs are moderately long; they are ſlender, and of a deep duſky, bluiſh-grey: the toes are long, and the claws are alſo long, black, and ſharp.

The bird is a native of the Eaſt Indies, and has ſometimes been brought over ſtuffed from thence. It is very noiſy and chattering; it's wild notes are not very agreeable, but when kept tame, as it frequently is by the Indians, it learns to imitate the human voice. None of the writers on birds have named it, unleſs it be Charleton; he mentions a ſpecies of Picus, as he expreſſes it, under the name of Picus garrulus five Mimus Indicus minor, which may poſſibly be the ſame with this; but, unleſs he had ſaid more, there is no being certain of it.

Corvus caſtanei coloris pectore ferrugineo.
The cheſnut-brown Corvus, with a ferrugineous breaſt.

The Ampelis.

This is a very ſingular and a very elegant bird; it is like our jay in ſhape, but it is greatly inferior to it in ſize; the utmoſt bigneſs of it is that of our common thruſh: it's head is moderately large, rounded at the ſides, but conſiderably depreſſed on the crown: the eyes are large, and very beautiful; their iris is of the higheſt ſcarlet, and the pupil black, and they have a peculiar piercing aſpect: the beak is ſtrong, but very ſhort; it is not longer than that of a ſparrow: both chaps are nearly of the ſame length; it is pointed at the extremity, and is throughout of a deep black: the membrane which covers the baſe of it is alſo black, and the noſtrils which ſtand in this are roundiſh: there are a number of curled briſtles growing about theſe, and from them to the beginning of the head.

The head is of a pale cheſnut colour on the forepart, but behind it is of a much deeper brown, approaching to that which our painters call an umber colour: at the ſides there are two black ſpots, formed, as it were, of a continuation of the briſtly covering of the noſtrils, and in theſe ſtand the eyes: the neck is ſhort; it is black before and behind, but of a ſtrong, though not very deep brown, at the ſides, and, as it approaches the head, it becomes whitiſh: the ſhoulders and back are of a deep reddiſh-brown, a very ſingular colour, and very elegant; the brown is bright, though ſtrong; and the reddiſh that is blended with it is not of the ſcarlet or crimſon kind, but of the pale bloſſom hue, or fleſh coloured tint: the breaſt and belly are of two different colours; the breaſt a ferrugineous brown, deep and ſhining; and the belly a pale, but not bright, grey, with no tinge of either brown or red in it: there is a ſhade of cheſnut colour viſible in certain lights, though not in all; and this is moſt diſtinguiſhable about the middle of the back; the feathers about the rump are yellowiſh.

The wings are ſhort, but they are very well feathered: the remiges or long feathers in each are twenty; the two firſt of theſe are ſhort, the third longer, the fourth longeſt of all, and the reſt from this gradually declining in length to the extremity or brown part: the long feathers are of a darker colour than any other part of the bird; in the male they are blackiſh; the covering feathers are of a bright and elegant cheſ-

nut

nut colour: part of theſe long feathers are very beautifully variegated with white and with ſcarlet ſpots, and part of them with yellow; the inner ones become paler than the outer, and ſome of the moſt hidden ones are greyiſh.

The tail is moderately long, and has this ſingularity, that in the male it conſiſts of only ten, and in the female of twelve feathers; they are nearly of the ſame length, and are all of a deep mouſe colour toward the baſe, but yellow at their extremities: the yellow is brighter in the male than in the female, but in both it is very elegant, and gives great beauty to the bird: and toward the baſe of the tail there are a number of other conſiderable long feathers, which form, as it were, another tail; theſe are of an elegant cheſnut colour, and are not rigid and ſtiff like the rectices, or long feathers of the real tail, but flexible, and ſoft as thoſe which cover the body.

The legs are ſlender, moderately long, and of a deep bluiſh-black colour: the toes are long, ſlender, and ſcaly, and the claws are long, ſharp, and very crooked, and are of a deep black: the claw of the hinder toe is longer and ſharper than any of the others.

This is a native of Bohemia, and is ſaid, by ſome authors, to be peculiar to that kingdom, but this is erroneous. It is frequent in many parts of Germany, and in Italy, and is ſeen, though not ſo abundantly, in the South of France. Moſt of the authors who have written on birds have named it. Aldrovand, and after him many others, call it Garrulus Bohemicus; and many, from it's peculiar fondneſs for grapes, Ampelis. It feeds on fruits of all kinds, but principally on the ſoft ones: it is naturally very noiſy, but it's wild notes are hoarſe and diſagreeable; when kept tame, it is eaſily learnt to imitate the human voice.

P I C U S.

THE beak of the Picus is ſtraight, of a polyhedral or many-ſided figure, and has it's point formed in manner of a wedge: the tongue is rounded, and very long; it reſembles in form a worm, or ſome other ſuch inſect: the toes, in all but one ſpecies, ſtand two before, and two behind, as in the parrot.

Picus niger vertice coccineo.
The black Picus, with a ſcarlet head.

The great, black Wood-pecker.

This is a very ſingular bird; it's weight is about ten ounces; it's body, in ſize, is ſomewhat larger than that of a fieldfare: the head is moderately large, and very much depreſſed or flatted on the crown; the eyes are large and piercing; the beak is very ſtrong, about two fingers breadth long, and of a deep blackiſh-blue colour; it is of a figure approaching to triangular, and is covered at the baſe by a membrane of a pale colour: the noſtrils are large and round; they ſtand very forward, and are ſurrounded with reflex hairs.

The head is black at the ſides, and toward the lower part, but of a beautiful red at the top; properly and diſtinctly ſpeaking, there is a ſpot of this fine coral red extending from the baſe of the beak, longitudinally, to the very back part of the head: the neck, ſhoulders, back, and wings, in ſhort, the whole bird, beſides, is of a deep and gloſſy black.

The wings are not very long; the long feathers in them are nineteen in each: of theſe the firſt is very ſhort and inconſiderable, in proportion to the others; theſe, however, are of a yet deeper black than any of the others: the tail conſiſts of ten feathers, of which the exterior two are very ſhort, and the others become gradually longer to the very middle ones; theſe are between ſix and ſeven fingers breadth long, which

which is therefore the extent of the meaſure of the tail; all the feathers, except the two inconſiderable exterior ones, are acute, rigid, and bent inwards: the proviſion of nature is very remarkable in this, for, while the bird runs up trees, or ſuſtains itſelf on the ſurface of the trunk, as is frequently neceſſary in it's ſeeking it's food, theſe feathers ſuſtain a great part of the weight of the body, relieving the feet, and giving it more opportunity of moving the anterior part of it's body without falling.

The legs in this ſpecies are robuſt, but ſhort; they are covered with feathers on the anterior part, half-way down below the knee, but on the hinder part they are not covered below that joint; they are of a deep bluiſh-black: the toes are moderately long, and ſtand two before, and two behind; the claws are large, ſtrong, and ſharp, only that of the leſſer of the two hinder toes is very inconſiderable.

The tongue of this bird, when extended to the utmoſt, is very long, and it is capable of a very ſwift motion of lengthening and retraction at pleaſure.

This ſpecies is very frequent in Germany, Sweden, Denmark, and other of the northern parts of Europe, but it has not been met with, that I know of, in England: all the writers on birds have deſcribed it. Geſner calls it Picus maximus vel niger; Aldrovand, Picus maximus; Willughby, Picus niger maximus; and others, by the ſame or ſimilar names. It feeds on the coſſi or hexapode worms, hatched from the eggs of beetles; and, as many kinds of theſe are lodged on the decayed trunks of trees, it is moſt uſually ſeen about them: it makes a loud and diſagreeable noiſe, uſually, when on the wing.

Picus viridis vertice coccineo.
The green Picus, with a ſcarlet crown.

The green Wood-pecker.

This is an extreamly beautiful ſpecies, but it is ſmaller than the former; it's weight is about three ounces; it's body is about the ſize of that of a lark: the head is moderately large, and is very much depreſſed on the crown; the eyes are bright and piercing, and of a ſingular ſtructure: the pupil is large and black, and it is ſurrounded by a double circle, in the place of an iris: the interior circle is of a browniſh-red, and the outer one is white: the tongue is very long, when thruſt out to it's full extent, and is of a bony hardneſs, and very ſharp at the point; it uſes this to transfix the inſects, on which it is about to feed.

The head is of a beautiful bright red colour, variegated with ſmall and irregular ſpots of black; and on the lower part of each chap there is alſo a fine red ſpot: the throat, the breaſt, and the belly are of a beautiful pale green; the back, the upper part of the neck, and the covering feathers of the wings, are of a much deeper and more elegant green: the rump is yellow, very pale, and approaching to what we call ſtraw colour; the under part of the tail is variegated with tranſverſe lines of a deep brown.

The long feathers in each wing are twenty, though the firſt is ſo ſmall, that it is an eaſy miſtake to count but nineteen; and thoſe neareſt the body have only one ſide green, and the other of a duſky brown, variegated with ſpots of white, of a ſemi-circular figure; ſome of the outer ones have alſo the ſame variegations, and the ſhort feathers which cover the roots of the long ones, on the underſide of the wing, are of a whitiſh-green, and variegated with tranſverſe ſpots of brown.

The tail is about four fingers breadth long, and is compoſed of ten feathers; they are rigid and ſtiff, and are turned inwards at the points, where they ſeem forked; this is owing to the ſcapus of the feather not being continued, as is uſually the caſe, quite to the extremity: the two middle ones, and ſometimes two or three of a ſide next them, have their ends tipped with black; the reſt of the feathers is variegated on the upper ſurface, with ſpots of a greyiſh-white, and on the under with white.

The legs are ſhort, and are not determinate in their colour; in ſome they are of a greeniſh-white, in others they are of a bluiſh-grey, or lead colour: the toes are moderately long; they ſtand two before and two behind, and the two anterior ones are connected at their baſes.

This ſpecies is not unfrequent with us; we meet with it principally in woods, where it feeds on the inſects living in the rotten trunks of trees, and on the ants, and their chryſalis, uſually called ant's eggs. It is more frequently ſeen on the ground than any of the other ſpecies. It builds in hollow trees, and lays five or ſix eggs: all the writers on birds have deſcribed it. Geſner calls it Picus viridis; Aldrovand, Picus noſter viridis; and Ray, Picus viridis major.

The male in this ſpecies differs ſo much from the female, that it might be miſtaken for a different kind; that which is here deſcribed is the female: it is more beautiful, and ſomewhat larger than the male. In the male, the temples and ſpace about the eyes are black; the throat is white, and the breaſt and belly are of a pale green, and undulated.

Picus albo nigroque variegatus, vertice nigro, rectricibus tribus lateralibus utrinque albeſcentibus.
The black and white variegated Picus, with a black head, and ſome of the tail feathers white.

The great, ſpotted Wood-pecker.

This is a very ſingular and beautiful bird; it is of the of the ſize common blackbird: the head is large and flatted on the crown; the beak is long, for a bird of this genus; it is nearly half an inch in length, and of a triangular figure: it is broad and thick at the baſe, and thence grows gradually taper to the point, and is all the way of a black colour, and perfectly ſtraight; the point is ſharp, and the angles are acute, and there are three or four furrows marked lengthwiſe on it: the noſtrils are round, and there grow about them a number of curled, ſhort, black ſetæ or briſtles.

The eyes are large, and they are very bright and piercing; their iris is of a fiery red, and the pupil large and black: the tongue is very long, and is formed into a hard and bony point at the end: the bird darts it out to it's full length at pleaſure, and it is of uſe in killing the inſects on which it feeds, by tranſpiercing them, before they are taken up by the beak.

There is a beautiful white ſpace at the baſe of each chap, and in the male there runs a tranſverſe duct of a fine beautiful red behind the crown of the head, reaching quite acroſs from the middle each way to that white: in the female, the throat and the breaſt are both of a pale yellowiſh-white: the lower part of the belly, near the inſertion of the tail, is of a fine bright and beautiful ſcarlet: the head and back of the neck are black, and there runs a black ſtreak along the ſides of the neck, from the angles of the beak, down almoſt to the body.

The long feathers of the wings are twenty in each; the firſt of them is very ſmall and inconſiderable, and they are all of a deep black, variegated with ſpots of white, of a ſemicircular figure: the covering feathers of the inner or under part of the wings are part white, and the remainder black; and thoſe of the outer ſide are black, but they have each one, or ſometimes two, ſpots of white, of a ſemicircular figure: the top of the wings is white: the tail is about three fingers breadth long; it is formed of ten rigid feathers: the two middle ones of theſe are longer than the others, and more rigid, and are turned downwards at their extremities; and both theſe, and all the other feathers of the tail appear bifid, at the end; which is owing to the rib not reaching to the extremity of the feather, as it does in moſt other birds: the two exterior ones, that is, one on each ſide, are black; only they have a ſingle ſpot of white on the outer ſide; the two next are black only at the tips, and the reſt of the feathers white, except that it is variegated with two tranſverſe lines of black; the upper one going

going quite acroſs the feather, the under only reaching over the inner pinnules: the fourth pair have the black of the tips carried a great way farther up the feather, and the white part above in theſe has only one black ſpot, by way of variegation: the fifth pair are uſually altogether black, but they have each a white ſemicircular ſpot near the baſe, and the top or extremity of each is of a browniſh-white: the two middle feathers, which are larger and longer than the others, are all over perfectly black: the courſe of nature, in the variegations of every ſingle feather of the tail, is uſually ſo very exact, that it was not improper to give the ſingle variegations here; but it is not ſo univerſal, but that it may ſometimes vary.

The legs are ſhort, robuſt, and of a deep bluiſh-grey or lead colour: the toes ſtand two before and two behind, and the two anterior ones are connected to one another at the baſe: the liver is ſmall, and the gall-bladder is alſo ſmall, and hangs to it by a ſlender neck: the ſternum is remarkably long, it is extended almoſt to the anus: the ſtomach is ſmall; the guts have many convolutions, and are laid deep in the hinder part of the body; which is the proviſion of nature, that they may not be eternally diſordered by the violent motions which the bird gives the head and anterior part of the body continually, as it ſtrikes the trunks of trees with it's beak, in taking it's food.

This ſpecies is frequent with us; we meet with it in greateſt abundance in the northern parts of England, and it is principally ſeen about the tall trees in hedges, and makes a very loud and diſagreeable noiſe, as it flies acroſs the fields, from one to another. All the authors who have written on the birds of this part of the world have deſcribed it. Geſner calls it Picus varius major; and Ray, Willughby, and many others who have written ſince, have copied his name. Aldrovand and ſome others call it Picus major, but that is leſs expreſſive, and leſs appropriated. It's food is the hexapode worms of the beetle-kind; it will feed on other inſects, but theſe are it's principal and favourite ſupport.

Picus albo nigroque variegatus, rectricibus tribus lateralibus apice albo variegatis.
The black and white Picus, with the three lateral rectrices variegated with white at the top.

The leſſer, ſpotted Wood-pecker.

This ſpecies is extreamly like the preceding in ſhape, colouring, and every other particular, but it is vaſtly ſmaller; it's weight is hardly more than an ounce: the head is ſmall, flatted on the crown, and very beautifully variegated; the hinder part of it is wholly black: there is an elegant white ſpot upon the crown, and the anterior part, toward the baſe of the beak, is browniſh: the eyes are ſmall, but of a very piercing aſpect: there runs from behind each eye a white line, which is continued down the ſides of the neck, turning inward all the way in it's courſe, till both meet at the bottom: the beak is ſhort, but it is very robuſt; it is of a pyramidal figure, and has two or three longitudinal furrows on it.

The back, and the upper feathers of thoſe which cover the outſide of the wings, are entirely black; the other covering feathers of the wings are black alſo, but they are very beautifully variegated with ſpots of white: the middle part of the back is white, but it is elegantly variegated with tranſverſe lines of black: the breaſt, belly, and throat, are all of a duſky white.

The wings, when extended, meaſure about eleven fingers breadth from tip to tip, and the tail conſiſts of ten feathers: the two middle ones of theſe are longeſt, and the others all the way gradually ſhorter on each ſide to the extream ones: the four middle ones are altogether black; they are much larger than any of the others, and they are turned inward at the extremities, and ſerve to ſupport the weight of the body in a great meaſure, while the bird is running up the trunks of trees.

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The legs are feathered a great way down, but not quite to the feet; the naked part is of a deep bluiſh or lead colour, and the toes are placed two before and two behind: they are moderately long and ſtrong, and the claws are very long, black, and ſharp.

This ſpecies is alſo very frequent with us; it flies ſwiftly but irregularly, and it runs with great rapidity up the trunks of trees. It feeds on the worms hatched from the eggs of beetles, and on other inſects found on the ſurface, and under the barks of trees: it is very ſwift in it's motions, and is inceſſant in the ſearch of it's prey. All the authors, who have written on the birds of this part of the world, have deſcribed it. Geſner, Ray, Willughby, and almoſt all the others have joined in calling it Picus varius minor. We, in Engliſh, call it the leſſer-ſpotted Wood-pecker, or the Hick-wall; and the large, ſpotted kind laſt deſcribed we call, by a name ſomewhat like this in ſound, the Witwall.

Picus albo nigroque varius rectricibus tribus lateralibus ſeminigris.
The variegated Picus, with the three lateral rectrices half black.

The middle ſpotted Wood-pecker.

This is a very pretty ſpecies; it's variegations are leſs ſtriking at firſt ſight than thoſe of the firſt or largeſt of the ſpotted ones, but, on examination, they appear to be no leſs beautiful: the head is moderately large, and is flatted on the crown; the hinder part of the head is black, but the crown and the anterior part, almoſt to the baſe of the beak, is ſometimes whitiſh, and ſometimes red; the ſpace juſt at the baſe of the beak only is grey; the temples alſo are grey: the eyes are ſmall, but they are bright and piercing; the beak is ſhort, but it is very robuſt and triangular in figure, and is marked with two or three longitudinal furrows: the noſtrils are round, and they are covered with a few ſhort and curled briſtles.

The whole bird is of about the bigneſs of a ſparrow: the throat, the breaſt, and the belly are all of a pale grey; the beak is variegated with black and white, and the wings are black, and have ſix ſeries of white ſpots on them: the tail is ſhort, and is compoſed of ten feathers: the fourth and fifth are black, the others are about half black, and that is variegated with ſeveral ſpots of white.

The legs are ſhort, but they are robuſt, and of a bluiſh colour: the toes are moderately long; they ſtand two before and two behind, as in the parrot, and the two anterior ones are connected to one another at the baſe: the claws of all of them are long, black, and ſharp.

This is a native of England, but it is much leſs frequent than the others; it lives principally in thick woods. I have met with it in ſufficient plenty in Charleton foreſt in Suſſex, and in Rockingham foreſt in Northamptonſhire, and ſome other places. Many of the writers on birds have omitted to name it, either from their not having ſeen it, or their confounding it with one or other of the preceding ſpecies. Ray has diſtinguiſhed it under the name of Picus varius tertius; and our Albin calls it, but improperly, Picus varius minor.

Picus pedibus tridactylis.
The Picus, with only three toes.

The three-toed Wood-pecker.

This is a bird extreamly ſingular in the conſtruction of it's feet, in that particular, differing from all the others of it's genus; it is of the ſize of a common linnet: the head is ſmall and depreſſed, or flatted on the crown, and is black but ſpotted: behind the angle of the mouth, on each ſide, there runs a white line; theſe, from the two ſides of the head, join at the neck, and are thence continued, only broader all the way down the back, to the inſertion of the tail: the breaſt and belly are variegated with

with black and white: the long feathers of the wings are black on the upper part, but with three or elſe five ſeries of very minute ſpots of white; on the under ſide they are grey, and there are ſeven or eight rows of larger white ſpots: the feathers which cover the wings on the upper ſide are black; the tail is ſhort, but firm and rigid: the long feathers are all of them black, but the two outer ones have ſome ſpots of white on them: the top of the head is of a fine ſtrong ſaffron colour.

The legs are ſhort, and of a deep bluiſh-black colour: the feet are alſo bluiſh, and the toes are only three, in which it differs from all the other birds of this genus: two of theſe ſtand forward, and one behind; of the two anterior ones the inner is the ſmaller and ſhorter; the hinder toe is larger than the longeſt of the others.

This is a native of Sweden, Norway, Denmark, and ſome parts of Germany; it frequents the foreſts, and eſpecially the mountainous ones. It has not been known to any of the ornithologiſts. We meet with it firſt deſcribed in the Stockholm Acts, under the name of Picus pedibus tridactylis, a name it retains every-where ſince.

Picus vertice coccineo criſtato.
The Picus, with a ſcarlet-creſted head.

The Braſilian Wood-pecker, or Ipecu.

This is a very ſingular and a very beautiful bird; it is the largeſt of all the wood-pecker-kind; it is equal to a common pigeon in ſize. The head is moderately large and flatted; the whole crown or depreſſed part is of an elegant ſcarlet; there is alſo a creſt of long and very beautiful feathers, of the ſame colour, which has it's origin from the hinder part, and hangs down on the back: the eyes are ſmall, but very bright and piercing; the iris is of a deep ſaffron colour, and the pupil of a bluiſh-black, with a ſhade of a changeable green alſo caſt over it: the beak is about three quarters of an inch long, and of a bluiſh-grey colour; it is of an angulated form, and obtuſe at the point, and is there of a darker colour than any where elſe: the membrane which inveſts the beak is of a deep bluiſh-grey, and in this ſtand the noſtrils, which are round and ſmall.

The neck is black, but there runs down on each ſide of it a longitudinal ſtreak of white: the beak is of an extreamly dark iron grey: the rump is quite of a deep black; the wings and tail are alſo of a deep black on the upper ſide, but white underneath; and the breaſt, belly, and feathers which cover the thighs are of a pale grey, or a black, ſpotted with ſo numerous and ſmall ſpots of white, that the whole appears grey and uniform.

The legs are ſhort, and they are covered down to the joint with pale grey feathers: the naked or lower part of them is blue, and the toes alſo are blue, and are placed, two before and two behind: the claws are ſhort and obtuſe; the tail is ſhort, but the feathers which compoſe it are rigid, and the middle ones, which are a little longer than the reſt, are turned down at the points, ſo that they aſſiſt the bird in keeping it's place on the trunks of trees.

This is a native of the Braſils, and is frequent alſo in the inland parts of South America; we ſometimes have it ſent over to us dried. Marcgrave, Piſo, and the other writers who have mentioned the Braſilian and South American animals, have all given it the name Ipecu, by which it is known to the natives; and Ray, Willughby, and the reſt have followed them. There is a very perfect ſpecimen in Sir Hans Sloane's Muſæum.

Picus corpore flaveſcente.
The yellow Picus.

The golden Wood-pecker.

This is an elegant bird, and, though extreamly different from all the other ſpecies of this genus in colour, is ſo perfectly like them in ſhape, in the ſtructure of parts and manner of living, that even the peaſants of the countries where it is native, diſtinguiſh it as ſuch.

The head is ſmall, depreſſed at the top, but rounded at the ſides: the beak is about half an inch long, and is of a triangular figure, very thick at the baſe, and, though ſharp, yet not ſmall at the point; it has three longitudinal furrows on it, and is of a pale bluiſh colour: the membrane which covers it's baſe is of a ſomewhat greyer hue, otherwiſe nearly like it; and the noſtrils, which ſtand pretty forward in this, are patulous and round: the eyes are large; their iris is of a duſky colour, and the pupil large and black, but with a changeable ſhade of bluiſh and greeniſh thrown over it.

The top of the head is of a fine gold yellow; the breaſt and the long feathers of the wings are alſo of the ſame elegant colour: the whole bird is indeed yellow, but the belly is pale and whitiſh, as is alſo the rump; and the back and the covering feathers of the wings are of a ſomewhat duſkier yellow, but ſtill a very agreeable colour.

The legs are ſhort; they are covered down to the joint with ſhort feathers, of a pale whitiſh-yellow, approaching to what we expreſs by the terms ſtraw or lemon colour: the toes are long; there are two placed before, and two behind, and their claws are black, but not very long or very ſharp.

This is a native of the South of France, and of ſome parts of Italy, but it is more rare than any of the other European ſpecies. It feeds, like the others, on inſects that live upon, and under, the barks of trees, and has, like the reſt, a long tongue, very ſharp at the point, and capable of being darted out at pleaſure. None of the ornithologiſts have deſcribed it. Barrelier mentions a bird under the name of Picus Citrinus, but the deſcription does not perfectly agree with the preſerved ſpecimen I have received of this.

The other ſpecies of the Picus are, 1. The brown Picus, ſpotted with yellow. 2. The black Picus, with the wings and tail yellow. 3. The cirrated, black Picus, with the tail yellow. 4. The brown Picus, with a gold yellow creſt. 5. The ſmallcoal-black Picus, with the ſcarlet creſt. 6. The larger-creſted, American Picus. 7. The ſmaller-creſted, American Picus. 8. The elegantly-coloured, variegated, American Picus. 9. The larger, ſpotted, American Picus. 10. The leſſer, ſpotted and variegated, American Picus.

JYNX.

THE beak of the Jynx is ſmooth, and the noſtrils are very conſpicuous, and depreſſed and hollowed: the tongue is very long, of a rounded form, and reſembles a worm: the toes are four, and they are placed two before and two behind.

Of this genus there is only one known ſpecies. Linnæus, in ſome of his works, has joined this and the cuculus; but 'tis better to preſerve them diſtinct, as he has done in his Syſtema Naturæ.

JYNX. The Wry-neck.

This is a bird of a very ſingular appearance; it is about equal to a lark in ſize: the head is ſmall, and ſomewhat depreſſed on the crown: the beak is ſmooth, and not ſo robuſt as in the wood-pecker-kind, though ſomewhat approaching to them in ſhape; it

it is not more than a third of an inch in length, and is of an obtuſely angulated form, but much leſs angular than in the generality of the ſpecies of thoſe birds: it is of a deep and duſky lead colour or bluiſh, and the membrane at the baſe is of a pale red in the male bird, and greyiſh in the femael: the noſtrils ſtand ſomewhat forward, and are of a rounded form, and hollowed; the tongue is very long, and terminates in a bony and ſharp ſpine: the eyes are large and piercing; their iris is of a hazel colour, but with a tinge of yellow; and the pupil is very bright, and of a bluiſh-black.

The colouring of the whole bird is very elegant; the head is of a very bright grey, variegated with tranſverſe lines and ſpots of black, white, and a reddiſh-brown, and it has a power of raiſing the feathers of the crown into a kind of creſt: from the top of the head to the middle of the back there run a ſeries of black feathers: the rump is grey, but it is variegated with tranſverſe lines, and ſpots of black: the back and the covering feathers of the wings are variegated with black, brown, reddiſh, and grey: the throat and the lower part of the belly are of a pale yellowiſh colour, and there are ſeveral tranſverſe lines of black on them: the breaſt is of a yet paler colour, and with leſs of the yellow; it is, indeed, almoſt whitiſh, and there are fewer ſpots on it than on the belly or throat.

The wings are moderately long, and very well feathered; the ſhort plumes which immediately cover the roots of the long feathers are yellow, and have ſome variegations of black: the long feathers are nineteen on each wing; they are black, ſpotted with a reddiſh-brown, and ſome of theſe ſpots, eſpecially thoſe on the feathers, which are neareſt to the body, are themſelves again ſpotted with black, in very minute dots.

The tail is moderately long; it conſiſts of ten feathers, and theſe are ſlender and weak, not rigid or formed as thoſe of the wood-pecker-kind: they are of a grey colour, and each of them has four or five tranſverſe black lines on it: the part of the feather which is neareſt theſe lines is of a mixture of browniſh with the grey; the reſt of the feather is a mere unmixed grey, and is, when cloſely examined, found to be ſprinkled over with ſmall dots of black.

The legs are ſhort, and not very robuſt; they are of a pale lead colour in the one ſex, and of a fleſh colour, or very pale red in the other: the toes are moderately long; they ſtand two before and two behind, and the anterior ones are connected at the baſe: the two outer toes on each foot are equal in ſize, and they are on each twice as long as the two inner ones.

We have this in England, but it is not very frequent. It inhabits large foreſts, and is ſeldom ſeen out of them; I ſhot two a few years ſince in Charleton-foreſt in Suſſex. It feeds on ants and other ſmall animals; it pierces theſe with it's tongue, which it darts out upon them, and never bites them with the beak, but to prepare them for going down the throat. It has a very ſingular way of twiſting it's head about, and bending it's neck: it thence obtained of the Latins the name Torquilla; and, with us, that of the Wry-neck. All the writers on birds have deſcribed it. Bellonius calls it Jynx, Torquilla, Turbo, and Siſopigis; Geſner, ſimply, Jynx; Aldrovand, and ſince him Ray, Willughby, and the reſt ſince his time, Jynx ſive Torquilla; Linnæus, where he ranks it with the cuculus, calls it Cuculus ſubgriſea maculata rectricibus nigris, faſciis undulatis; Charleton calls it Siſopigis Torquilla.

CUCULUS.

THE beak of the Cuculus is ſmooth: the noſtrils are not hollow, as in the jynx, but protuberant: the tongue is entire, and of a ſagittated figure: the toes are four, and they ſtand two before and two behind, as in the parrot and wood-pecker-kinds.

Of this genus there is only one known ſpecies.

Cuculus

CUCULUS. The Cuckow.

The cuckow is a bird of conſiderablebeauty, when cloſely examined; and the male and female differ ſo much in their colour, that it would be eaſy to miſtake them for diſtinct ſpecies. The female is about the ſize of a ſparrow-hawk, or ſomewhat ſmaller. It is a very well-made bird, and uſually ſtands erect and firm: the head is moderately large, and ſomewhat depreſſed: the eyes are large, and piercing in their aſpect; the beak is a little hooked, but not much ſo; the upper chap is ſomewhat longer than the under, and is black; the under one is green: the noſtrils are large, prominent, patulous, and naked: the tongue is flatted, and of a ſagittated figure.

The head, the neck, and back are all of a hoary colour, with ſome dark grey feathers of a peculiar gloſs, ſhewing themſelves in ſome places: the throat, and indeed all the under part of the neck, is of an undulated fleſh colour, or very pale red, with an admixture of yellow: the rump is of the ſame colour with the back, only paler; and the belly is whitiſh, but variegated with elegant, tranſverſe lines, of a ſhining, browniſh-black; the under part of the tail is alſo of the ſame hue, only whiter.

The tail is long; it iscompoſed of ten feathers; theſe are black, butwith the tips white, and there are alſo ſome other white ſpots on them, both at the ſides and in the middle: the wings are long; they are of a browniſh-black on the upper ſides, and on the under they are of a hoary greyiſh, with tranſverſe lines of white: the long feathers are black.

The legs are moderately long, and are covered pretty low on the anterior part with feathers: their naked part is yellow; the toes are long, and they ſtand two before and two behind; the claws are long, black, and ſharp.

In the male, the head is of a pale ſilvery grey, without any admixture of ſpots or variegations; the back is of a ſomewhat duſkier grey than the head, but neither in this is there any variegation, or any feathers darker, or otherwiſe different from the reſt: the under part of the throat alſo is grey, without any ſpot: the belly is of a darker colour than in the female, and the under part of the tail is yellowiſh: both male and female are ſometimes darker, and ſometimes paler coloured, and have more or leſs variegations of the different ſhades of grey, but there is no foundation for the dividing them from this accident into different ſpecies.

This breeds with us, but does not remain the whole year. All the writers on birds have deſcribed it, and all under the ſame ſimple name of Cuculus; only Linnæus, who makes the jynx a ſpecies of the ſame genus, calls this Cuculus rectricibus nigricantibus punctis albidis.

PARADISÆA.

THE beak of the Paradiſæa is of a cultrato-ſubulated form, and acute; and the forehead is gibbous: the two middle feathers of the tail are extreamly long, and very firm.

Paradiſæa ſubrubens alis coccineo et flavo variegatis.
The reddiſh Paradiſæa, with the wings variegated with red and yellow.

The common bird of Paradiſe.

This elegant ſpecies is about the bigneſs of a ſwallow, and it ſomewhat reſembles that bird in ſhape, if the body only be examined; though, taking in the whole bird, it has not the leaſt reſemblance to any thing, but the other ſpecies of it's own genus; the whole

whole bird appears of variable colouring, as ſeen in different lights, but in all very beautiful: the head is large: the beak is in ſhape like that of the cuckow; it is moderately long, and a little bent or hooked: the noſtrils are ſmall, depreſſed, and of an oval figure: the eyes are ſmall, but of a very piercing aſpect, and their iris is of a fine orange colour.

The whole crown of the head, from the naked part at the baſe of the beak to the beginning of the neck, is covered with ſhort, thick, and rigid feathers, of a fine gold yellow, and extreamly bright and gloſſy: the lower part of the head and the throat are covered with feathers of a ſofter texture, and of a moſt elegant changeable deep blue and green colour, ſuch as we ſee on the neck of ſome of the duck kind: the back and rump are of a beautiful colour; a red, but not bright or fiery, but tinged with a mixture of a kind of brown: the breaſt is of the ſame colour, only ſomething paler; and the belly is ſtill paler than that.

The wings are very well feathered; they are long, and pointed at the ends: the principal feathers are of a very deep colour, ſeeming formed of an admixture of black and red, and over theſe there ſtand ſome others of a ſingular ſtructure, conſiderably large, and moſt elegantly variegated with ſcarlet and yellow: the tail is moderately long, but the two long feathers of all are of more than three times the length of the others; theſe alſo are of the ſame mixed, dark, but glowing colour with the principal feathers of the wings, but there are none of the variegated feathers toward their baſes.

The breaſt and belly of this ſpecies are covered with thick-ſet and conſiderably broad feathers; the back with narrower and more rare ones: the legs are ſhort, and of a pale fleſh colour; the toes are long, and the claws are long, black, and ſharp.

This, and indeed all the other ſpecies of this genus, are the natives only of the hotter countries; they keep almoſt continually on the wing, in the manner of our ſwallows, their wings and tail being extreamly long, and their bodies very light. There grew from hence an opinion among the vulgar, that they had no legs; and thoſe who ſent them over preſerved to us, uſed to favour the deceit, by pulling off the legs of ſuch, before they dried them. Many of the writers on birds have deſcribed this ſpecies. It was one of the firſt brought over into Europe, and thence acquired among us the name of the common bird of Paradiſe, or, ſimply, the bird of Paradiſe, and among authors that of Avis Paradiſi primus; Aldrovand calls it Manucodiata prima; and Ray, Willughby, and others have copied the ſame name.

Paradiſæa flavo-ferruginea capite pallidiore maculato.
The yellowiſh-brown Paradiſæa, with a pale ſpotted head.

The yellow bird of Paradiſe.

This is alſo a very beautiful ſpecies, though in the whole leſs ſo than the former; it is of the bigneſs of a lark: the head is large, and ſcarce at all flatted on the crown: the beak is moderately long, ſomewhat hooked, and of a pale brown: the upper chap is a little longer than the under, and the inſide of the mouth yellow: the noſtrils are ſmall, hollowed, and oval; the eyes are very ſmall, and their iris is of a fiery red, with a tinge of yellow diffuſed throughout: the head is of a very pale colour, approaching to white, and of a ſilvery gloſs, and is elegantly ſpotted all over with a bright yellow; the ſpots in ſome lights having the appearance of burniſhed gold.

The back is of a beautiful colour, formed of a mixture of yellow and a ferrugineous brown: the upper part, near the neck, is paleſt; it has very little of the brown, but in the place of it a greyiſh-white, mixed with the yellow and predominating. Toward the middle of the back there is a good deal of brown in the yellow, but it is yet very bright and glittering, and at the rump it is perfectly brown: the breaſt and

belly are of the ſame mixed colour, only paler; and the under part of the tail is of a ſilvery grey: the wings are very long, and their principal feathers are of a fine gold yellow, with a ſlight tinge of brown: the two long feathers of the tail are alſo of the ſame variegated colour, and very beautiful: the legs are ſhort, and of a pale fleſh colour, and the claws are long and black.

This is a native of Arabia: it has not been deſcribed by any author. We had ſome ſpecimens of it brought over, about four years ſince, in very great perfection.

Paradiſæa ſubalbida flavo et fuſco variegata.
The whitiſh Paradiſæa, variegated with yellow and brown.

The White bird of Paradiſe.

This is of the ſize of our lark, and is a very beautiful bird, though leſs ſo than the two preceding ſpecies: the head is moderately large, and a little depreſſed or flatted on the crown: the beak is two fingers breadth long, and moderately thick; it is of a mixed greeniſh and yellowiſh colour: the upper chap is a little longer than the under, and it is ſomewhat hooked at the extremity: the inſide of the mouth is reddiſh, and the tongue is long, red, and ſharp, and hard at the end, in the manner of that of the wood-pecker-kind: the noſtrils are oblong and hollowed: the eyes are moderately large, and their iris is yellow: the verge of the eye-lids is red, and there is a redneſs alſo in the naked part, at the baſe of the beak.

The head is of a ſilvery white, variegated with ſpots of yellow: the back is of three colours; it's upper part is whitiſh, like the head, with ſcarce any variegation; a little lower there is a tinge of yellow in the white, and toward the rump of brown: the breaſt is of the ſame whitiſh colour, but with a bluſh of fleſh colour diffuſed over it: the wings are very long, and their principal colour is the ſame whitiſh, but there is a mixture of ferrugineous at the tips: the tail is white toward the body, but afterwards it is alſo tinged with a ferrugineous hue, and the two long feathers are very beautiful; they have a fine gold yellow mixed with the brown.

The legs are ſhort, feeble, and reddiſh; the toes are long, and the claws ſharp and black.

This is a native of the ſame part of the world with the former; it is ſometimes brought into Europe dried, and ſeems to be the ſpecies deſcribed, under the name of the Manucodiata ſecunda, by Aldrovand; and after him, by Ray, Willughby, and others.

Paradiſæa alba pectore caſtaneo.
The white Paradiſæa, with a brown breaſt.

This ſpecies is conſiderably larger than either of the former; it's body is equal to that of our jay in ſize, and it's wings are more than ten inches in length: the head is large and flatted on the crown; the eyes are large, and very bright and piercing; their iris is of a bright gold yellow; the pupil of a greeniſh-black: the beak is three fingers breadth long, and conſiderably thick; it is very much hooked, and at the point is very ſharp; the upper chap is longer than the under, and the noſtrils which ſtand toward the baſe of it are large, patulous, and of an oval figure.

The ſides of the head are of an elegant ſilvery white, without any ſpot or variegation: the crown is of a ferrugineous brown, and, toward the hinder part, this brightens with an elegant yellow: the back and rump are of a clean and beautiful white; the coverings of the wings are alſo white, and their long feathers are ſomewhat greyiſh: the throat and breaſt are of a fine deep cheſnut brown; the belly is of a pale brown, and the under part of the tail is again whitiſh: the wings, when expanded, ſpread

to

to a great extent; the tail is moderately long, and the two long feathers are very narrow and flexible.

The legs are ſhort, but robuſt; they are of a duſky browniſh-yellow: the toes are long and ſlender, and the claws are long, black, and ſharp.

This is brought to us dried with the others, and it is but rarely that the legs are preſerved with it; moſt of the authors who have written of birds have mentioned it. Aldrovand calls it Manucodiata tertia and Hippomanucodiata; Ray, Willughby, and others have borrowed the ſame name. Aldrovand mentions it as much larger than the ſize given here; but this deſcription is from a ſpecimen ſent over to England; it is poſſible larger of the ſame ſpecies may have been ſeen.

Paradiſæa griſea capite nigreſcente criſtata.
The creſted Paradiſæa, with a black head.

This is of the ſize of our thruſh in it's body, but the wings are ſo long, that it has the appearance of being much larger: the head is large and flatted on the crown: the eyes are ſmall, and their iris brown; the beak is two fingers breadth long, and ſomewhat hooked: the upper chap is longer than the other, and is turned over it at the end: the whole beak is of a deep black; the noſtrils are large, open, and of a figure approaching to oval.

There is a ſpot of yellow near the baſe of the beak, but the reſt of the head and the neck are black: the back is of a duſky grey, and the breaſt and belly of a pale grey; the lower part of the belly is whitiſh; there is a creſt on the neck formed rather of a kind of ſetæ than of feathers; this is of a yellow colour: the long feathers of the wings are black; the tail alſo is black, and ſo are the two oblong feathers of it.

The legs are moderately long, ſlender, and yellow: the toes are long, and the claws are long, black, and ſharp.

Moſt writers on birds have deſcribed it. Aldrovand, Ray, Willughby, and others call it Manucodiata quarta ſive cirrata. We have ſpecimens of it ſometimes brought over to England.

Paradiſæa nigreſcens capite minore.
The black Paradiſæa, with a ſmaller head.

The black bird of Paradiſe.

This was one of the firſt ſpecies brought into Europe, and is conſequently deſcribed by ſome authors as the common kind; it is, in the body, about as big as our thruſh, but the wings are immoderately long: the head is ſmaller than in moſt of the others, but it is ſomewhat broad, and flatted on the crown: the beak is a finger's breadth and a half long, and is hooked at the end: the upper chap is longer than the other, and is black; the under one is of a kind of olive colour: the noſtrils are large and roundiſh: the eyes are ſmall, and their pupil black, with a tinge of greeniſh; their iris grey: the anterior part of the head is of a pale, ſilvery grey, but the reſt of it is black: the back is of a dark grey, the breaſt of a paler, and the belly whitiſh: the wings are very long, and their feathers extreamly thin, light, and delicate, and thoſe of the tail are alſo very elegant, but ſomewhat more rigid; all theſe are black, and the two long feathers of the tail are blacker than all the reſt.

The legs are ſhort but robuſt, and of a deep bluiſh-black colour: the toes are moderately long and ſcaly; the claws are very long, black, and ſharp.

This has been long known in Europe by the ſpecimens ſent over of it; but as the firſt people, who made us in this part of the world acquainted with it, told of it's being always on the wing, and, to credit the ſtory, pulled off it's legs; the authors who

who have mentioned it, are found to have ſwallowed the falſity, and deſcribe it under the name of Apos, or the bird without feet. Geſner has given a figure of it, and ſubmits to it's want of feet with great readineſs; but, as he would have it have ſome way of reſting, he tells us, that, when inclined to do ſo, it twiſts the two long feathers of it's tail round the bough of a tree, and ſo hangs with it's head downward. It is at this time not ſo often brought over, as thoſe of more beauty. Aldrovand calls it Manucodiata quinta ſive vulgaris; and Ray, Willughby, and others have borrowed his name; Geſner and others call it Paradiſæa, ſive Apos Indica; others, Paradiſæa vulgaris.

Paradiſæa fuſca fronte virideſcente, collo ſuperius flavo.
The brown Paradiſæa, with a greeniſh front, and the neck yellow.

The king of birds of Paradiſe.

This appears of the ſize of the jack-daw, but, when examined, the greater part of it's bulk is found to be owing to it's feathers, the body being, in reality, very ſmall: the head is ſmall, flatted on the crown, and rounded at the ſides: the eyes are large, and of a piercing aſpect; the beak is three quarters of an inch long, and of a blackiſh colour, with a tinge of olive: the upper chap is longer, and the under ſhorter, and the upper is almoſt entirely black, the other browniſh: the noſtrils are of an oval figure, and tolerably large: the head is of a beautiful brown, except that toward the baſe of the beak, and about the angles of the mouth, there are ſome beautiful feathers of a gloſſy green: the back-part of the neck is of a beautiful gold yellow, and the fore-part of the neck, from the beak to the breaſt, is of an elegant, gloſſy green, with a tinge of gold ſhining through it, much like the colour on the backs of ſome of our beetles: the back, the wings, the tail, and indeed the whole upper part of the bird, are of a deep brown: the breaſt is alſo of a ſtrong brown, approaching to cheſnut; a very elegant colour, and extreamly gloſſy: the long feathers having their origin from under the wings, and hanging over the tail, are of an elegant gold yellow toward the baſe, and of a variegated brown and yellow in the reſt; theſe are about a foot long, and of an elegant ſtructure.

The two long feathers have their origin among theſe; they are more than two feet in length, and are of a gold yellow toward the baſe, but they have more brown toward their extremities, and they are turned or curled at the ends.

The legs are moderately long, robuſt, and of a brown colour: the toes are long; they ſtand, as in all the others of this kind, three before and one behind, and they are armed with long and ſharp whitiſh claws.

We frequently meet with ſpecimens of this in the collections of the curious. Marcgrave calls it Manucodiata Rex; and moſt of the authors who have written ſince, have continued the ſame name to it. Charleton calls it Paradiſæorum Rex.

Paradiſæa capite nigro virideſcente, collo flavo, dorſo aureo, cauda fuſca.
The greeniſh, black-headed Paradiſæa, with a yellow back, and a brown tail.

This is a ſmall ſpecies, but it is one of the moſt beautiful of the whole genus: the head is ſmall, and is depreſſed on the crown, and compreſſed in ſome degree at the ſides: the whole bird is not bigger than our common ſwallow, only the wings are much longer: the eyes are extreamly minute; they hardly exceed a grain of millet in bigneſs, and are coal black: the beak is three quarters of an inch long; it appears very large, in proportion to the head: the upper chap is longer than the under, and is ſomewhat hooked: the noſtrils are of an oval figure and ſmall.

The

The front of the head is ornamented with a quantity of fine, ſoft, and ſhort feathers, of a deep gloſſy black; theſe ſurround the whole baſe of the beak, both above and below, and have the appearance of velvet: the reſt of the head is of a deep greeniſh-black, with a changeable ſhade of blue and purple thrown over it, as we ſee in the changeable colours on the neck of a peacock: the neck is of a ſtrong yellow, with ſome tinge of browniſh with it, but the back and the covering feathers of the wings are of a pure, unmixed, gold yellow; the breaſt is of a paler yellow, and the belly is whitiſh, but with a tinge of ſtraw colour.

The long feathers of the wings are of a deep cheſnut-brown; the tail alſo is of the ſame colour, but there is an appearance of it's being of a ſilvery white: there are a multitude of very long feathers, of an elegant and a ſingular ſtructure, which have their origin from the ſides of the body under the wings, and about the thighs; theſe are from ſix to ten inches in length, and of a ſingularly delicate ſtructure: they are of a ſilvery white, and they hang all over the tail, ſo that they have been miſtaken by inaccurate obſervers for the tail itſelf: the two long feathers of the tail exceed theſe conſiderably in length, and are brown, very gloſſy, and ſhining.

This is ſent over dried, among the others, as a curioſity to Europe; and many of the writers on birds have deſcribed it, though moſt of them imperfectly. Marcgrave, having before deſcribed a larger kind, calls this Manucodiata, ſive avis Paradiſi altera; and Ray, Willughby, and others have continued the ſame name to it.

Paradiſæa gutture virideſcente, pectore nigro purpureo.
The Paradiſæa, with a greeniſh throat, and a blackiſh-purple breaſt.

This ſpecies is about equal to the ſparrow in the real ſize of it's body, but it's feathers ſtand ſo looſe, and it's wings are ſo large and long, that, when they are cloſed, it has the appearance of a much larger bird; moſt of the birds of Paradiſe are handſome, but this is more ſo than almoſt any of them: the head is moderately large, and is flatted on the crown: the eyes are very ſmall and black; the beak is two fingers breadth long, and is almoſt ſtraight, only the upper chap is ſomewhat longer than the under one, and at it's point bends a little over it: the whole beak is of a duſky olive colour, approaching to black; but the under chap is ſomewhat paler than the other, and the noſtrils are ſmall, depreſſed, and of an oval figure.

The head is covered with a peculiar kind of feathers; they are extreamly narrow, and reſemble rough filaments of ſilk; they are of a gold yellow, except at the baſe, where they are browniſh: the ſides of the head, from the eyes down to the neck, are covered with the ſame ſort of fine narrow feathers, but they are of a deep blackiſh colour, with a ſhade of changeable green and blue, ſuch as is ſeen on the neck of a peacock: the breaſt is covered with elegant long and narrow feathers, of a beautiful gloſſy appearance, and of a colour made up of a deep brown, approaching to black, and a ſtrong red: the belly is of the ſame colour, only conſiderably paler; and the back, the wings, and the tail, when viewed in a full light, appear only of a duſky velvety-brown; but, viewed in different directions, it is ſeen that this colour is compoſed of a mixture of brown and ſcarlet.

The long feathers of the wings are extreamly elegant; they are from five to fourteen inches in length, theſe alſo in ſome lights have a ſhade of brown upon them, in ſuch manner, that they ſeem ſimply of that colour; but, viewed in other directions, they ſhew a moſt elegant gold yellow, a high ſcarlet, and a flaming orange colour: the tail has the ſame variegations, but this is in great part covered by the long and narrow feathers, which grow from the ſides of the body: the two long feathers of the tail are, like thoſe of the wings, of a mixed colour, part yellow, part red, but with a ſhade of brown over all.

The legs are moderately long, and very ſlender; they are of a duſky olive colour: the toes are long and ſlender, and the claws very long, ſharp, and of a pale brown.

This is a ſpecies rarely ſent over to us; Sir Hans Sloane has one in fine perfection. Ray and Willughby have mentioned it, under the name of Paradiſæa avis majoris generis.

Paradiſæa rubens cauda et alis ferrugineis.
The red Paradiſæa, with a brown tail and wings.

This is a ſpecies ſometimes alſo honoured with the name of Rex avium Paradiſæorum. Authors had heard the Dutch merchants, who were the firſt that brought the knowledge of theſe birds into Europe, talk of one ſpecies more beautiful than the reſt, which was called the King of the birds of Paradiſe, and they have occaſionally honoured different ſpecies with that appellation.

This is about the bigneſs of a nightingale, but it's wings are extreamly large and long: the head is ſmaller than in many other ſpecies, and flatted on the crown; the eyes are ſmall, and their iris is of an orange colour: the beak is more than an inch long; it is ſlender, weak, and ſomewhat hooked at the end: it is white throughout, only the noſtrils, which are large, depreſſed, and oval, have ſome tinge of brown.

The upper part of the head is of an extreamly bright and fine ſcarlet: the back, the rump, and ſides are of the ſame bright ſcarlet, but the ſides of the head, and the whole under-part of the body, are a little paler: the wings have the covering feathers ſcarlet alſo, but the long ones have a tinge of browniſh, and the long feathers of the tail have alſo the ſame brown colour: the long and ſlender feathers however, which grow from the ſides of the bird and fall over the tail, and the two long feathers of all, are ſcarlet, only there is a little tinge of browniſh toward the baſes of the latter.

The legs are robuſt but ſhort; they are white, and the toes are long, and armed with ſharp but ſlender whitiſh claws.

This ſpecies is brought over with the reſt into Europe. Ray and Willughby have deſcribed it, under the name of Rex avium Paradiſæorum majoris generis; and many of the other writers ſeem to have mentioned it, under the general name of Rex avium Paradiſi.

U P U P A.

THE beak of the Upupa is arcuated, convex, compreſſed, and equal; and it has a furrow running along each ſide of it: there is a creſt on the head, which is capable of folding back.

Of this genus there is but one known ſpecies.

Upupa. The Hoopoe.

This is an extreamly ſingular bird; it's weight is about three ounces, but it is ſo thick covered with feathers, that it appears large, in proportion to that weight: the head is large, and is ornamented with an elegant creſt: the eyes are ſmall, but very bright and piercing: the beak is of a very ſingular figure; it is an inch and a half long, ſomewhat bent into the form of a bow, pointed at the end, very ſlender, and all over of a black colour: the noſtrils are large and oval, and ſtand toward the baſe, and there runs on each ſide, all the way down, a longitudinal furrow: the tongue is ſhort, and lies deep in the mouth; it is broad at the baſe, and pointed at the extremity, and is, upon the whole, of a figure approaching to triangular: the figure of the whole bird approaches to that of the plover.

The creſt on the top of the head is extreamly elegant; it is compoſed of a double ſeries of feathers, two fingers breadth high, and continued from the baſe of the beak

to

to the very back-part of the head: the bird has a power of raiſing or depreſſing this at pleaſure; it is compoſed of twenty-four or twenty-ſix feathers, and ſome of theſe are much longer than the others; theſe are tipped with black, and ſome of the under part with white; the reſt of the creſt is yellow, but that not a fine bright yellow, but with a tinge of a cheſnut-brown: the neck is of a beautiful reddiſh-brown; the breaſt is white, variegated with lines of black tending downwards; but, as the bird grows older, the middle of the breaſt becomes abſolutely white, and theſe black variegations are only ſeen on the ſides.

The tail is between four and five fingers breadth long, and is black; it is compoſed of ten feathers; in the middle of it there is an elegant ſpot of white, large, and of the figure of a new moon; the back or gibboſe part looking towards the body, the horns toward the extremity of the tail: the wings are moderately large, when expanded; they meaſure about ſixteen inches from tip to tip, and, when cloſed, they reach nearly to the tip of the tail: the long feathers in each are eighteen; the ten firſt of theſe are black, with a white area on each; the ſucceeding ones have alſo a white area on them, and the tips and edges of ſome of the laſt are reddiſh.

The back is very elegantly variegated with black and white, in little alternate ſpaces on every feather: the legs are ſhort, and not very robuſt; the toes are moderately long: the outer toe is connected to the middle one, ſome part of the way down, without the help of a membrane: the claws are moderately long and ſharp.

This bird is a native of the northern parts of Europe, but is no where very plentiful. It had been long known in Germany and Sweden, before it was ſuppoſed to be a native of England, and ſeveral of our old writers declare it not to be ſuch. Ray produces the teſtimony of people who had ſeen it with us; and I have myſelf ſhot it on the vaſt heath, called Hind-Head, in Suſſex: it is a very ſhy bird; I found it on the wet parts of the heath. It's food is inſects, ants, ſmall beetles, and the like. The antients were well acquainted with it. The Greeks called it Ἔποψ; and Ariſtotle tells us, that it uſed human dung inſtead of clay for the lining of it's neſt, but there is no late obſervation to countenance this. The Latin writers have all deſcribed it under the ſame ſimple name Upupa; ſome have alſo continued the Greek one, and called it Epops ſive Upupa. We call it the Hoop or the Hoopoe; the Germans, the Widehuppe; names which ſeem to have been all formed from it's note, which is very loud, and almoſt continually repeated.

ISPIDA.

THE beak of the Iſpida is of a trigonal figure, ſomewhat arcuated, compreſſed, and equal: there are four toes to each foot, but only one of them behind.

Iſpida dorſo cæruleo, pectore rufeſcente.
The blue-backed Iſpida, with a reddiſh breaſt.

The King-fiſher.

This is one of the moſt beautiful of the European birds: the head is moderately large and flatted; the whole bird is about the bigneſs of a lark, but of an extreamly different ſhape, broader on the back, and flatter: the eyes are moderately large and piercing; the beak is near an inch and a quarter in length, and is almoſt ſtraight, ſtrong, acute, and all over black, except at the corners of the mouth, where it is whitiſh: the two chaps are about of the ſame length; the noſtrils are large and oblong, and the inſide of the mouth is yellow: the tongue is broad and ſhort, and is pointed, and not divided at the extremity.

The throat is white, but with ſome faint admixture of a reddiſh-brown: the breaſt and belly are alſo of the ſame colour, but with more of the reddiſh tinge; and the lower part of the belly, toward the tail, is of a full and ſtrong reddiſh tinge; the ſides alſo,

alſo, and the feathers under the wings, are of the ſame reddiſh tinge: on the breaſt there is a tinge of bluiſh-green at the tips of the feathers.

The whole back, from the neck to the inſertion of the tail, is of an elegant blue colour, ſcarce to be deſcribed, and on which it is painful to the eye to remain looking: it is not a deep or ſtrong colour, but pale, and extreamly bright, excelling the luſtre of all the works of art: it appears uniform at firſt ſight, but, if carefully obſerved, there will be found ſome tranſverſe lines in it of a darker colour.

The crown of the head is of a blackiſh-green, variegated with tranſverſe ſpots of blue: between the noſtrils and the eyes there is a reddiſh ſpot, and there is alſo another ſpot of the ſame colour behind each eye; and behind each of theſe reddiſh ſpots there is yet another of a pale whitiſh hue, with only a ſlight tinge of reddiſh-brown in it: under all theſe, there runs a longitudinal line of a bluiſh-green.

The wings are long, and well plumed; the long feathers in each are no leſs than twenty-three in number; the third of theſe, from the outer one, is the longeſt: as well theſe long feathers, as the ſhorter, which immediately cover them, are of a beautiful dazzling blue both on the upper ſide, and brown underneath; and all the leſſer ones, except thoſe quite at the verge of the wing, have the ſame elegant blue at their tips: from the ſhoulders there hang a number of very long and very narrow feathers down each ſide of the back; theſe are of a mixed blue and green colour, very bright and gloſſy; the tips of them are bluer, and the bodies greener.

The tail is very ſhort, it hardly equals an inch in length; it is compoſed of twelve feathers, and is throughout of a deep blue, with ſome blackneſs.

The legs are extreamly ſhort; they are black on the front ſide, and of a red colour on the hinder part, as are alſo the feet and toes: the ſtructure of the feet is ſingular; the outer toe of each adheres to the middle ones for the ſpace of three joints, and the inner one only one joint; the inner toe is the ſmalleſt of all; it hardly equals half the length of the middle one: the outer one is nearly equal to the middle one, and the hinder toe is about equal to the leaſt of the three anterior: the third bone of the leg is ſhorter in this than in any other known bird; and the toes are deeply marked with a number of tranſverſe lines or furrows, which give them the appearance of being articulated.

This is a native of England, and of many other parts of the world. It is uſually ſeen about brooks and rivers, and feeds on fiſh: all the writers on birds have mentioned it. Ray, Willughby, and others call it Iſpida, or veterum Alcyon; and others, Alcyon and Halcyon. It builds about the ſides of rivers, but it is not common.

Iſpida capite cæruleo pectore variegato.
The Iſpida, with a blue head and variegated breaſt..

The Indian King-fiſher.

This is a very ſmall but a wonderful elegant bird, it hardly exceeds our common titmouſe in ſize: the head is ſmall, oblong, flatted on the crown, and rounded at the ſides: the eyes are ſmall, and their iris is of a dark duſky hazel: the beak is large, in proportion to the ſize of the bird; it is more than half an inch long, conſiderably robuſt, a little crooked, and very ſharp at the end, it is of a pale fleſh colour throughout, except at the tip, and along the verge of the under jaw, where it is black: the noſtrils are very minute, and of an oblong figure and narrow; and the angles of the mouth are yellow.

The head is throughout of a moſt elegant ſhining blue, without any ſpot or variegation: the throat is of a deep purple; the breaſt and belly are of a pale but elegant crimſon, variegated with oblique lines of a greeniſh colour, not very diſtinguiſhable, unleſs on a near inſpection: the back and ſhoulders are of a deep green, ſhaded with a tinge of the richeſt and deepeſt blue imaginable, if viewed in certain lights; in others it is leſs diſtinct; the rump is whitiſh.

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The wings are long, and there are twenty-two large feathers in each; theſe are of the ſame deep colour with the back, but thoſe which cover them, eſpecially toward the top of the wing, are of the brighteſt blue, like that of the head: the tail is very ſhort, and is blue; the colour of the back of this bird greatly reſembles that of the neck of a drake, which is blue in ſome lights, and green in others; or it more exactly reſembles that high tinge of the large humming bird, ſo remarkable for it's colour.

The legs are very ſhort, and of a very beautiful pale red: the toes are long, and the three anterior ones are connected a great way together: the claws are black, but not ſharp.

This is a native only of the Eaſt Indies; we had a ſpecimen of it brought over about two years ſince, which is now in my poſſeſſion, purchaſed at an auction. None of the authors who have written on birds have named it, unleſs it be Charleton; that author, in his Onomaſticon Zoicon, talks of an Indian King-fiſher not bigger than a wren: the ſize very well agrees with this, but he has not left us any farther proofs of his acquaintance with it.

Iſpida corpore ferrugineo, collo lunulæ albo cincto.
The brown King-fiſher, with a white collar.

The Braſilian King-fiſher.

This has nothing of the elegant colouring, either of the Eaſt Indian, or of the European ſpecies, but it has very great beauty of another kind; it is about the bigneſs of a thruſh: the head is large, and very much flatted; the eyes are large, and their iris is of a deep hazel: the beak is two inches and a half in length, nearly ſtraight, ſtrong, pointed at the end, and throughout of a black colour: the noſtrils are oblong, narrow, depreſſed, and of a brown colour within: the head is ſomewhat elevated at the baſe of the beak.

The whole upper part of the bird, the head, neck, back, rump, and wings are brown, except that there runs a broad and elegant tranſverſe ſtreak of ſnow-white acroſs the neck: the brown has ſome faint tinge of the reddiſh in it, and is what we underſtand by the term ferrugineous, when we expreſs a very bright colour by that word: the feathers are all amazingly bright and gloſſy; and the eye is as much dazzled with them, as with the intolerable blue of the European kind, which it is always a pain to continue but a moment looking upon: the breaſt, the belly, the throat, and the under part of the wings and tail, are all of a ſnow-white.

The wings are moderately long, and the tail is very ſhort, not exceeding three quarters of an inch in length; the long feathers of the wings are twenty-three in each, and they are of the ſame brown with the body, but there are a few ſpots of white diſtinguiſhed on ſome of them, when the wing is expanded; and the tail alſo is brown, only with a few ſpots of white on ſome of the feathers.

The legs are remarkably ſhort and black; the feet are formed exactly, as in our king-fiſher, both in regard to the ſizes and connexion of the toes: the claws are black, long, and moderately ſharp.

This is a native of South America; we owe the firſt deſcription of it to Marcgrave who gives it under it's American name Jaquacati guacu; the Portugueſe, from it's frequenting ponds and rivers, and feeding on fiſh, call it Papa piexe; Ray, Willughby, and others call it Iſpidæ Affinis, and add the Braſilian name of Marcgrave. We have, within theſe few years, had ſome good ſpecimens of it ſent over into Europe.

Iſpida capite variegato, pectore cæruleo.
The blue-breaſted Iſpida, with a variegated head.

The Bee-eater.

This is alſo a very beautiful bird; it is larger than our common king-fiſher, and indeed equals the black-bird in ſize: the head is very large, in proportion to the body, and is remarkably depreſſed; the eyes are large, and have a very bold and fierce aſpect; their iris is of an extreamly bright and beautiful red: the beak is very long and large, a little crooked, black throughout, ſharp at the point, and very like that of the common king-fiſher in ſhape: the noſtrils are oblong, and the tongue is ſmall and lacerated.

The head is very elegantly variegated in it's colouring; the front of it, about the baſe of the beak, is of a moſt elegant bright blue, with an admixture of green, but, in the midſt, juſt above the noſtrils, there is ſome white: the crown of the head is of a reddiſh-brown, and in ſome there is a caſt of greeniſh; this is the difference of the ſexes: on each ſide of the head there runs a black line from the angles of the mouth by the eyes, and quite to the hinder part of the head; and from this, on each ſide downward to the top of the throat, the colour is yellow, but it is extreamly pale, about the colour of flour of brimſtone, only not ſo bright: the neck and ſhoulders are of a very elegant hue; it is green, but with a conſiderable admixture of red blended in it: the whole under ſide of the body, the breaſt, under part of the neck and belly, are of a beautiful blue: this is deepeſt on the neck, and of all is the moſt deep, where it joins the yellow under the baſe of the beak; on the breaſt it is paler, and yet more diluted on the belly, and througohut it has an admixture of red in it; but this is very faint, and in ſome birds, probably the male, there is a tinge of green with the blue.

The wings are moderately long; the large feathers are all of them black at the extremities, and the ten firſt have behind the black a ſpace of blue, with a caſt of green: the middle ones are of a very bright and beautiful orange colour, and the larger orders of the covering feathers of the wings are of the ſame colour, but thoſe on the very top are bluiſh: the feathers of the ſhoulders, which are long, and hang down on the ſides, are of a pale whitiſh-yellow, and are deeper at the tip than elſewhere. This is the general colouring of this elegant bird; but the ſeveral individuals of the ſpecies, though they agree in the principal things, yet differ greatly in particulars; ſome have more of the blue, ſome more of the green; others have more, others leſs, of the reddiſh tinge; and, though it is always eaſy to know the ſpecies ſolely by the colouring, yet the variation is ſurpriſing.

The tail is moderately long; it is four or five inches in length, and is compoſed of twelve feathers: it is blue, but there is ſome greenneſs in the outer feathers; the two middle feathers run out farther than any of the reſt, and terminate acutely.

The legs and feet are formed exactly, as thoſe of the common king-fiſher; the legs are very ſhort but thick, and the toes are proportioned and connected, as in that ſpecies; they are of a pale browniſh-red: the claws are long and black.

This elegant bird is a native of Italy, and of the iſlands of the Archipelago, and many other places, but it is not met with in England: at Rome it is brought to market; and Bellonius ſays, that it is as common in Crete as our ordinary ſmall birds here: all the writers on birds have deſcribed it. Bellonius, Geſner, Aldrovand, and Charleton call it Merops; Willughby and Ray, Merops and Apiaſter. It feeds on beetles and other inſects. Ariſtotle ſays on bees, and all the reſt of the naturaliſts have followed him in this, and many of them ſeem to have ſuppoſed that it eat nothing elſe. Bellonius tells us too, that it eats wheat, and other corn, and the ſeeds of ſeveral plants; and, as it is frequently ſeen about the ſhores, it is probable that, like the king-fiſher, it feeds occaſionally on fiſh. It catches bees, and other flying inſects, while

while on the wing, as the ſwallow does flies. It does not uſually fly ſingle, but in flocks, and makes a loud but not diſagreeable noiſe, ſomewhat like that of a man whiſtling.

Iſpida dorſo caſtaneo, pectore flaveſcente.
The brown-backed Iſpida, with a yellow breaſt.

This, though greatly inferior to the former ſpecies in colouring, is yet a beautiful bird; the bigneſs is about that of our king-fiſher: the head is large, in proportion to the body, and is depreſſed on the crown: the eyes are large, and their iris is of a bright red: the beak is an inch and a quarter long, and is moderately robuſt and thick: the two chaps, of which it is formed, are nearly of the ſame length, and the whole is bent a little toward the form of a reaper's ſickle, but in a leſs degree: it is black throughout, and the noſtrils which are ſituated toward it's baſe are oblong: the mouth opens to a great width, and the tongue is ſhort and ſmall.

The head is of a duſky, but not diſagreeable, yellow: the back is throughout of a beautiful cheſnut-brown, but the rump is paler, and greeniſh or yellowiſh: the breaſt, belly, and throat are of a pale yellow; the breaſt is ſomewhat deeper than the belly, and toward the ſides, and about the thighs, the colour is almoſt whitiſh: but the great ſingularity and ſtriking character of the bird is, a long black ſtreak on the middle of the head; this has it's origin at the baſe of the beak, and is continued quite along the head, to the very beginning of the neck.

The wings are long, and they are variegated in an extreamly elegant manner; the long feathers are ſome of them all over blue, ſome all over yellow; ſome part blue, and part yellow, and ſome entirely black, only tipped with a bright ſcarlet at the extremities; it is not eaſy, indeed, to conceive a greater variation of colouring, than there is in the wing of this bird, and all the colours are high and glowing: the tail is moderately long, and is yellow, but green for a conſiderable ſpace at the end, ſo that at firſt ſight it appears half green and half yellow; the legs are very ſhort and yellow: the claws long and black.

This is a native of Germany, but it is not known in England. It is called by ſome authors Hirundo Marina, the Sea-ſwallow, but it is truly of the king-fiſher-kind, and is more like the merops than any other ſpecies. Aldrovand has therefore properly called it Merops alter ſive Meropi Congener. It feeds on inſects.

Iſpida vireſcens capite criſtato, cauda longiſſima.
The green Iſpida, with a creſted head, and very long tail.

The Guira Guainumbi.

This is perhaps the moſt elegant bird of this whole claſs, notwithſtanding that there are ſo many ſingularly beautiful ones of it: it is indeed ſo particular in it's figure as well as colouring, that, if ſpecimens of it had not been ſent over into Europe, we ſhould hardly credit the relations of thoſe who wrote upon the ſpot, that there was ſuch a bird.

It is about equal in ſize to our thruſh: the head is large, and is ornamented with a moſt elegant creſt; the beak is an inch long, tolerably robuſt and thick, a little hooked, and ſharp at the point: the noſtrils are oblong; the eyes are large and beautiful; their iris is of a gold yellow, and the pupil black.

The head is ornamented with a creſt of erect feathers, of the moſt lively blue imaginable; they are indeed exactly of the colour of the turquoiſe-ſtone; and in the midſt of this creſt is a round black ſpot, of the bigneſs of a ſilver three-pence; there are alſo ſome clack feathers and ſome blue ones, which form an elegant, variegated line under the eyes: the neck, back wings, and tail, that is, the whole upper part of the

the bird, are of an elegant, ſtrong, and ſhining green, equal to the colouring of the brighteſt of the parrot-kind: the throat, breaſt, and belly are of a bright and beautiful yellow: on the wings and tail there is a ſhade of a deep blue, mixed with the green, in the manner of the ſhaded colours on the neck of a drake: the tail is very long and narrow; it is compoſed of but few feathers, and has at firſt view ſomewhat of the appearance of the tails of the Macao-kind, which, together with the colouring, might at firſt ſight induce people to ſuppoſe it of the parrot-kind; but the ſtructure of the legs and feet, and of the beak, and other the moſt eſſential characters, declare them different.

The legs are ſhort, and are feathered down to the middle joint, with fine, ſoft, and ſhort feathers of a pale but gloſſy green; the naked part of the legs is black; the toes ſtand three before and one behind, and are, in proportion and ſtructure, perfectly like thoſe of the king-fiſher: all the three anterior toes are joined together at their baſes; the exterior one a great way down, the interior only for the compaſs of one joint: the claws are long and black; beſide the other ſingular variegations on this ſpecies, there is a ſpot of moſt remarkable kind on the front of the neck; this is compoſed of three or four black feathers, and a ſeries of pale blue ones round about them; it ſtands in the very middle of the neck, and makes a very beautiful appearance.

This beautiful bird is a native only of the Braſils, and of ſome parts of South America. Moſt of the ornithologiſts mention it after Marcgrave, under the name of Iſpidæ ſeu Meropi affinis Guara Guainumbi Braſilienſibus Tapinambis. We have ſeen ſpecimens of it ſent over in tolerable condition to Europe.

Iſpida dorſo fulvo albo variegato, pectore albo.
The Ipſida, with a yellowiſh brown back, variegated with white, and a white breaſt.

The Creeper.

This is a very ſingular little bird, and has puzzled the naturaliſts of many ages in what claſs, or among what other birds, to place it: the ſhape of it's beak, however, arranges it among theſe; and the ſtructure of it's feet brings it into the genus of the Iſpida, though very unlike the common king-fiſher in ſize, form, colour, and every other obvious particular.

It is an extreamly ſmall bird; it hardly exceeds a wren in ſize: the head is large, in proportion to the body, and the crown is flatted: the eyes are ſmall, but they are very bright and piercing, and their iris is of a blue colour: the beak is long, ſlender, and a little crooked; both chaps are nearly of the ſame length, and the upper one is black, the lower whitiſh: the noſtrils are ſmall and oblong.

The head is of a deep duſky brown, with ſomewhat of a tawny yellow in it; there is, on each ſide of it, a ſpot of white: the back and the upper parts of the wings are of a tawny brown, but variegated in the middle of the feathers with white: the rump is of the ſame brown, only a little paler; the throat, the breaſt, and the belly are all white: the wings are ſhort; the long feathers in each are eighteen in number; of theſe the firſt is ſhort, and the fourth is the longeſt of all; they are brown, and have variegations of white in lines, and ſpots in their middle, and at their extremities: the covering feathers of the wings are of a darker brown than any of the others, and approach toward blackneſs; but they have white variegations, like thoſe of the back ones, only not ſo large or numerous.

The tail is moderately long, in proportion to the ſize of the bird; it is not leſs than an inch and three quarters, and it is compoſed of ten rigid feathers, of a duſky brown, but with ſome faint tinge of a reddiſh, as well as yellowiſh, in it.

The



The Toucan



The Rook



The Carrion Crow



The Roller



The Royston Crow



The Green Woodpecker



The Spotted Woodpecker



The Wryneck



The King Fisher



The Hoopoe



The common Bird of Paradise



The Cuckow



The Merops

B. Cole Sculp.

The legs are ſhort, but they are robuſt; they are of a pale brown colour, and the hinder one is armed with a very long and ſharp black claw; thoſe of the three anterior toes are alſo black and ſharp, but they are much ſhorter.

This ſingular little bird is a native of moſt parts of Europe; with us it is very frequent. It runs up the trunks of trees, in the manner of the wood-pecker, and feeds on the inſects that it finds on their bark. It builds in rotten wood, and the hollows of old trees, and lays a vaſt number of very minute eggs. All the writers on birds have mentioned it, and almoſt all under the name of Certhia. Bellonius calls it Certhia, Certhius, and Reptatrix. We, in England, the Creeper, and, in ſome places, the ox-eye Creeper.

B I R D S.

Claſs the Third.

ANSERES.

THE beak or opening of the jaws in the Anſeres is dentato-ſerrated: the feet are formed for ſwimming.

The word Anſer has been uſed in general to ſignify only the gooſe-kind; but it is in this ſenſe made to comprehend the ſwan, duck, widgeon, pelican, and a number of others.

PHOENICOPTERUS.

THE beak of the Phœnicopterus is of a ſtrange figure; it is bent in ſuch a manner as to appear as if broken, and is dentated at the edges; and the lower chap is broader than the upper: this ſingular ſtructure of the beak excludes all other birds, from the genus of which there is therefore only the ſingle ſpecies, uſually known by the name.

PHOENICOPTERUS. The Flamingo.

This is one of the moſt ſingular birds in the world; it is very large, and moſt remarkably tall: the body is but ſmall, in proportion to the extream length of the neck and legs: the head is very large, and remarkably rounded or prominent, not flatted on the top: the eyes are large, and very bright and piercing in their aſpect: the beak is of a very ſingular figure and ſtructure; it is long, and very broad; it ſeems as if broken toward the top, and the upper chap is depreſſed and dentated, and the under one very broad and thick: it is of a duſky blue throughout, except at the tip, where it is black.

The head is white; the neck alſo and the body are white: the neck is of ſo ſurpriſing a length, that that of a ſwan appears ſhort to it.

The wings are ſhort but broad; the long feathers of them are black, but the covering ones are all of the higheſt ſcarlet, and make a moſt glowing appearance: the tail is ſhort and inconſiderable; the legs are wonderfully long, they exceed even the neck in length, and are robuſt, and of a high ſcarlet colour: the toes are three before, and one behind; the three anterior ones are connected by a membrane, and are very long; the hinder toe is ſhort and inconſiderable.

It is a native of many parts of the Weſt Indies and of Africa; we have it ſometimes in Europe about the ſea-coaſts, but rarely. The Flamingo feeds on fiſh, ſhell-fiſh, and a variety of animals that frequent the ſides of waters, as well as thoſe which

live in them; it is uſually ſeen wading up to the mid-leg, and the uſe of it's length of neck is evident on theſe occaſions, as it takes up any thing with eaſe from the bottom, at theſe depths. The writers of all times have been acquainted with it, and we have an account from Pliny, that it's tongue was eſteemed by Apitius as one of the greateſt of all delicacies at table; they have all called it, as we do, Phœnicopterus.

ANAS.

THE beak of the Anas is convex; the point or extremity of it is obtuſe, and the whole verge is furniſhed with tranſverſe, lamelloſe teeth: the tongue is obtuſe and ciliated.

Anas roſtro plano, apice dilatato rotundoque.
The Anas, with a flat beak, broad and rounded at the end. — The Spoon-bill.

This ſpecies is ſo extreamly different from the generality of the Anas kind in it's general figure, that it has been uſually accounted one of the ſtorks; ſome have made it a ſpecies of pelican, and others of heron; but the figure and ſtructure of the beak, which is, though referable in every particular to this claſs, yet one of the moſt ſingular in the world, brings it evidently to this family, as do alſo it's other characteriſtic parts, though it's general form be different.

It is of the ſhape of our common heron, and is about the ſame ſize: the neck is very long, and the legs are alſo proportionably long: the head is large, rounded, and very convex on the front: the eyes are ſmall; the beak is very large, and of the moſt ſingular ſtructure imaginable: it is very long and flat; it is broad throughout it's whole length, but, contrary to the cuſtom of nature in other birds, which have it broadeſt at the baſe, and ſmalleſt at the point, this is largeſt there; it is flat, and of the ſame breadth all the way till near the extremity, where it expands into a round figure, and forms ſomewhat of the reſemblance of the bowl of a ſpoon, the reſt ſerving in manner of a handle; it has from this obtained the name of the ſpoon-bill: the beak is white, when the bird is young; but, when it is full grown, it becomes of a duſky olive, approaching to black: there are twelve or fourteen furrows on the broad part; the reſt is almoſt ſmooth.

The whole bird is white, and, in it's wild ſtate, the white is extreamly clean and elegant, as in the ſwan; when kept, as we ſometimes have it in confined places, it becomes naſty, and loſes the beauty of it's colouring: the wings are moderately long, and are the only part of the bird, where there is a feather that departs from the whiteneſs of the body: the three or four firſt of the long feathers have ſome blackneſs, eſpecially at their tips: the tail is very ſhort and inconſiderable.

The legs are very long, ſtrong, and white; they are naked half-way up, above the middle joint, which ſhews they are intended for wading in the ſhallow waters; but the ſtructure of the feet ſhews, that they are alſo formed for ſwimming where it is deeper: the toes are connected together by a membrane, as in the feet of the ſwan, &c. but not in ſo conſpicuous a manner, or ſo deeply; the outer toe of each foot is connected to the middle one, as far as the end of the ſecond joint, but the membrane which connects the others reaches no farther than the firſt joint.

This ſingular bird is a native of many parts of Europe, but not of England. It lives principally about waters, and frequents the watery countries moſt: it is no where ſo common as in Holland; but, though it lives about waters, it does not build among the ſedge, and other furniture of their banks, as moſt of the water-fowl do, but on the tops of the higheſt trees: this it does in ſome parts of the Low Countries as frequent, and in as vaſt number, as the rook with us, and makes more noiſe. It feeds

on

on frogs and other water animals, as well as on fiſh, and, like the duck, on all kind of offal and garbage: it's food is apt to paſs through it very quick and undigeſted, for it ſwallows voraciouſly. I remember to have ſeen at once the moſt ſingular and naſty incident in the world in ſome of theſe birds, kept in the late Duke of Richmond's yard; they had been fed with chickens guts, and we ſaw them taking hold of the ends of the guts, as they hung undigeſted out of the fundament, and pulling them out to eat over again. Moſt of the ornithologiſts have mentioned this ſingular bird, but they have been diſtreſſed what to call, or where to arrange it; it's general ſhape ſeeming to refer it to one claſs, and it's characters evidently to another. Geſner calls it Pelicanus ſive Platea; Aldrovand, Leucoradios ſive Platea, Pelicanus Ornithologi; Wormius, Platea Ciceroni; Olearius, Platina ſive Cochlearia; Willughby, Platea Pelicanus leucoradius ſive Albardeola. The Dutch call it Lepelaer; and we, the Spoon-bill, or Spoon-beaked Stork.

Anas roſtro ſemicylindrico, cera flava, corpore albo.
The white Anas, with a ſemicylindric beak, and it's membrane yellow.

The Swan.

This is the largeſt and moſt beautiful in it's appearance, though ſimply white in colour, of all the Anas kind: it is conſiderably larger in the body than the beſt fed turkey, and it's plumage is more ſoft, bright, and elegant, than in any other known bird: the neck is extreamly long, but the legs are ſhort; the uſe of the length of the neck being to take up, as in others, food from the bottoms of ſhallow waters; the legs ſerving to carry it thither, by ſwimming, not by wading: the head is large, rounded, and very convex on the crown: the eyes are large and bright; the beak is large, and of a ſemicylindric figure, and is rounded at the extremity: in young birds it is of a lead colour, except the verge of the end, which is black, and a black areola that runs behind the eyes; but, in the full-grown ones, the beak is of a fiery or orange ſcarlet colour, and it's verge black; and, at it's baſe, there is a remarkable large black fleſhy tumour: the ſpace under the eyes always remains black: the beak is ſerrated, and the tongue is hairy, as it were, or furniſhed with numerous ſhort and very ſlender appendages.

The whole body is of a ſnow-white, as are alſo the wings; they are extreamly long and well feathered: the tail is ſhort and inconſiderable; the legs are of a very deep lead colour, almoſt black; the feet are very large; the toes long, and connected by a broad and tough web, which is black; the claws are ſhort and obtuſe: the feet are ſo broad, when fully expanded, that they ſerve the bird excellently for ſwimming; and the intent of nature being, that it ſhould paſs it's time on the water, when forced out upon land, it walks but very badly and awkwardly.

It is a native of many parts of Europe, and is preſerved, for it's beauty, in moſt others. It breeds with us; the neſt is very large, and is made in the ſedge, or among reeds, at the ſides of rivers: it lays five or ſix eggs, very large, and all over white. The male and female ſit on theſe by turns, and, when the one is on the neſt, the other is always ſwimming about near the place to guard her. I have known a ſwan, in the defence of it's mate, attempt to drive off a boat that has come too near, by all the fierceneſs of aſpect and fluttering of wings imaginable; and at length, in diſregard of it's own defenceleſs condition, come into the boat. And I have known them keep a dog, that has ventured too near, under water, by the buffeting of their wings, till it has been drowned.

All the writers on birds have deſcribed the ſwan: they have called it Cygnus domeſticus and Cygnus ferus, diſtinguiſhing it in it's wild and familiar ſtate into two ſpecies; but this is idle and unneceſſary; the bird is wholly the ſame in both.

Anas roſtro ſemycylindrico, baſi gibbo.
The Anas, with a ſemicylindric beak, gibboſe at the baſe.

The Swan-gooſe.

This is a very ſingular bird, and has ſo much of the ſtately appearance of the ſwan, and at the ſame time alſo ſo much of the general figure of the gooſe, that people who have judged only by the general figure, in theſe caſes, have not known to which of the two kinds they ſhould refer it. It is of the ſize of the largeſt gooſe: the neck is very long, and the legs ſhort: the head is round and large; the eyes are moderately large, and the beak is of a ſemicylindric figure, and remarkably long and large: the back is of a duſky brown colour; the belly is of a ſnow-white: the throat and breaſt are not abſolutely white, but have a tinge of reddiſh-brown, that is extreamly beautiful, and on the back part of the neck there runs a browniſh-black line all the way down, from the head to the very back: the beak is black, and the ſingular and obvious characteriſtic of the bird is, that there is a very large fleſhy tubercle at it's baſe, which hangs over it: this is larger in the male than in the females, and is much larger alſo in birds of five or ſix years old, than in thoſe of only a year or two.

The wings are long, and are of the ſame dark colour with the back, only that the tips of ſome of the long feathers are white: the tail is ſhort and inconſiderable, and the tips of it's feathers are alſo white.

The legs are ſhort, but very robuſt and thick, and the feet are very broad, all the toes being long and connected together to the ends with a membrane: the legs are red, and the beak is alſo ſometimes red, but it is more uſually black; and over it's baſe, or between that and the eyes, there always runs a beautiful ſtreak of white: the hinder toe is ſhort, and all the claws are obtuſe.

This is a native of the Eaſt, and of ſome parts of America; we have it kept for it's beauty in many parts of Europe. It loves the water, but it is much better qualified for walking on land than the ſwan, and often does it on choice, the other never. Whether walking or ſwimming, it carries it's head and neck in the ſame ſtately, erect manner as the ſwan. Moſt of the writers on birds have deſcribed it. Ray calls it Anſer Cygneus Guinienſis; Willughby, Anſer Biſanicus vel potius Guinienſis. We call it the Swan-gooſe, and the Spaniſh gooſe, the Turkiſh gooſe, the Guinea-gooſe, and the Siberian gooſe; there are indeed ſo many parts of the world where it is native, that it may be very variouſly named from them.

Anas roſtro ſemicylindrico, corpore ſupra cinereo, ſubtus albido, rectricibus margine albis.
The brown-backed, white-bellied Anas, with the edges of the wing feathers white.

The Gooſe.

This is too common a bird to need a long deſcription: the head is large and rounded; the beak large, and of a ſemicylindric figure, as in the ſwan; the eyes are large, and the noſtrils oblong: the back is naturally of a mixt colour, compoſed of brown and grey, but it varies extreamly in this reſpect, when kept tame, which in it's wild ſtate it is very regular in it.

The legs and the beak are yellow, while the bird is young, but they become reddiſh, as it grows to maturity: the wings are conſiderably long, and ſo well feathered, that, though the body be very bulky, they can ſupport it with great eaſe in very long flights: they are of the colour of the back, but with more of the grey and leſs of the brown in it: the long feathers are twenty-ſeven in each wing, and the edges of many of them are white: the tail is ſhort and inconſiderable, but it is longer, in proportion, than in the ſwan; it is compoſed of eighteen feathers: theſe are ſhorteſt

ſhorteſt at the edges, and thence gradually longer to the middle, where they are longeſt of all. It is equally calculated for walking or ſwimming; it carries it's head erect, and, when provoked, makes an odd hiſſing noiſe.

All the writers on birds have deſcribed the gooſe, but they have run into the ſame error in this, as they do in regard to the ſwan. They divide it into two ſpecies, under the names of Anſer ferus and Anſer domeſticus; but the bird is entirely and abſolutely the ſame. We have the wild gooſe flying over our heads, in the fens of Lincolnſhire, in vaſt flocks. They uſually fly at a vaſt height, but are ſometimes within the reach of a peculiar kind of long guns, which are ſupported by ſticks, while the people fire them. I have ſeen them frequently brought down this way, and found them to be wholly the ſame with the tame ones in our yards.

Anas capite colloque nigris.
The Anas, with the head and neck black.

The Bernacle, or Clakis.

This is a very ſingular bird; it is conſiderably ſmaller than the common gooſe, but larger than the duck: the head is large and rounded, neither at all compreſſed at the ſides, nor depreſſed on the crown: the eyes are large; the beak is black, and is much ſmaller than in the common gooſe, but it is rather broader, in proportion to it's length: from the very baſe to the extremity it hardly meaſures an inch and a half; the part about the angles of the mouth, and juſt under the lower part of the beak, and whatever elſe is contiguous to it, is white, except for a deep black ſpace between the top of the baſe of the beak and the eyes.

The whole neck, both on the upper and under ſides, is of a coal-black quite down to the breaſt and to the back: the under part of the body is white, but not a pure and clean white, but with ſomewhat of an admixture of greyiſh. The feathers that cover the lower part of the thighs, a little above the knees, are black: the back is variegated with black and grey, and the covering feathers of the tail are part white, and part black: the wings are long and well plumed; the long feathers are of a blackiſh-grey; the tail is black: the covering feathers of the wings are very elegantly variegated with black, grey, and white, and make an extreamly beautiful appearance.

The legs are ſhort; the feet are broad and webbed, as in the common gooſe.

It is a native of England, and is frequent, in particular, about the coaſts of Lancaſhire, in winter. Moſt of the authors who have written on birds have deſcribed it. Geſner calls it Brenta ſive Bernicla; others, Bernicla or Branta; and ſome, Anſer Scoticus ſive Bernicla; Bellonius calls it the Cravant and Oye nonette, and ſuppoſes it to be the Chenalopex of the antients. Moſt of the other writers have ſuppoſed this bird, and that diſtinctively called Brenta, to differ only in ſex; and, while that was the opinion, there was no impropriety in joining the names: but later obſervations have proved, that they are two abſolutely diſtinct birds, and conſequently the name Bernicla ought to be kept appropriated to this ſpecies, to which it was originally given; and that of Brenta to the other, next to be deſcribed.

This is the bird which Gerard and ſome other authors have declared to be produced from a peculiar ſpecies of ſhell-fiſh, called the Bernacle-ſhell, found on decayed wood that lies about the ſea-ſhores. The love of wonderful obſervations raiſed this firſt account of the bird's being produced from a ſhell-fiſh, that uſually adhered to old wood, into the ſtory of that ſhell growing upon a tree, in manner of it's fruit. Thus were the animal and vegetable kingdoms confounded; and it was pretended, that ſuch of theſe fruits as fell on land came to nothing, but ſuch as fell into the ſea; for they aſſure us, the tree grew no where but on the ſhores, diſcloſed living animals, which at firſt were rude and imperfect, but by degrees grew to the perfect form and ſize of this bird. The whole matter that gave origin to this ſtory is, that the ſhell-fiſh, ſuppoſed to have this wonderful production, uſually adhere to old wood, and that they have a kind of fibrils hanging out of them, which in ſome degree reſemble feathers of ſome

bird: from this ſlight origin aroſe a ſtory that they contained real birds: what grew on trees people ſoon aſſerted to be the fruit of trees, and from ſtep to ſtep the ſtory gained credit with the hearers, till our Gerard, a man, in the reſt, of candour and veracity, declares, that what he ſpeaks of them is what his eyes have ſeen, and his hands have handled; though not one ſyllable of his account is true.

Anas collo nigricante torque albo inſignito.
The Anas, with a black neck, and a white collar round it.

The Brent-goose.

This has uſually been confounded with the former, the difference having been ſuppoſed to conſiſt only in the ſex; but it is, in reality, a diſtinct ſpecies; it is a little larger than our common duck: the head is large and round; the eyes are large and beautiful; their iris is of a bright hazel, and their pupil of a deep black: the beak is ſmall, in proportion to the ſize of the bird, and black; but it is exactly of the figure of that of the common duck, and is ſerrated in the ſame manner at the ſides: the noſtrils are very large, and of an oblong form; the whole beak is black.

The whole head, the neck, and the upper part of the breaſt are black, but only in the middle of the neck there ariſes from each ſide an oblong white ſpot, and theſe, joining in the middle, form a kind of chain or necklace round it: the back is of a greyiſh-brown, and toward the rump it is darker than elſewhere, and almoſt black: the feathers, however, which lie immediately over the root of the tail, are white: the lower part of the breaſt is of a greyiſh-brown colour, and the belly is white.

The wings are long and well-feathered, and the long feathers in them are black; the tail alſo is black: the covering feathers of the wings are brown.

The legs are ſhort and black; the feet are webbed, and the hinder toe is ſhort.

Many of the writers on birds have deſcribed this, but they have in general miſtaken it for the female of the preceding ſpecies. Aldrovand has figured it, and Bellonius has deſcribed it under the name of Anas torquata. We have it about the ſea-coaſts, in ſome places, in great abundance. It is very common in Scotland, and in ſome parts of Yorkſhire.

Anas cinerea fronte alba.
The grey Anas, with a white forehead.

This is a very beautiful bird, and it is ſomewhat ſingular, that, though it be very common in many of the northern parts of Europe, ſcarce any of the writers on theſe ſubjects have deſcribed, or even mentioned, it. It is ſomewhat larger than our common duck: the head is large and rounded; the eyes are large, and their iris is of a bright hazel, with a tinge of an orange ſcarlet in it: the beak is large and long; it is flatted, rounded at the end, and dentated all the way along the ſides; it is of a duſky red colour: the head is of a bright grey colour, but there is a ſpot of white in the front: the back of the neck is alſo grey, but ſomewhat darker than the head: the back, the wings, and the tail are alſo grey, and the breaſt, throat, and belly white, but on the breaſt there are ſome beautiful variegations of black in form of ſpots.

The legs are ſhort, and of a bright red colour; the feet are large, and are webbed; the hinder toe is ſhort, and the claws are all ſhort, black, and obtuſe.

This ſpecies is common in many parts of Germany, and in Sweden, Denmark, and Norway; it is not a native with us, but is ſometimes ſeen on our coaſts. Rudbeck was the firſt who made the world acquainted with it; he calls it Anſer cinereus ferus torque inter oculos et roſtrum albo Erythropos; Linnæus calls it, Anas cinerea fronte alba.

Anas



The Flamingo

The Wild Goose



The Spoon Bill



The Shoveler



The Shell Drake



The Gadwall



The Swan Goose



The Golden Eye



The Brent Goose



The Sea Pheasant



The Pelican



The Cormorant



The little Crested Diver



The Shage

B. Cole Sculp.

The Merganser

Anas albo variegata abdomine longitudinaliter cinereo maculato.
The Anas, variegated with white, and with a longitudinal ſpot of grey on the belly.

The Tadorna.

This alſo is a very beautiful bird, and a large one; it is very little inferior to the common gooſe in ſize: the head is large and rounded; the eyes are large, and their iris is of a bright hazel, with an admixture ſometimes more, ſometimes leſs, of yellowiſh and reddiſh: the beak is ſhort, but broad, and a little crooked; it is flat, and large, and rounded at the extremity: it is ſerrated all round the edges, and at the point, and is of a blood-red colour, except that the verge at the extremity is black, and the noſtrils alſo are black.

There is an oblong and prominent tubercle of a fleſhy ſtructure at the upper part of the beak, or between the baſe of the upper chap and the head: the head itſelf is of a very deep, changeable green, ſo duſky, that at a little diſtance it appears black: the upper part of the neck alſo is of the ſame colour; the reſt of the neck is of a ſnow-white: the ſhoulders, and the upper part of the breaſt, are of a very beautiful orange colour; this forms a kind of broad ring, ſurrounding the whole anterior part of the body: the breaſt and belly are white, but there runs all along them a beautiful line of dark grey in the middle, from the breaſt, nearly to the inſertion of the tail. In the loweſt part of the belly, juſt at the origin of the tail, there is a faint tinge of the orange colour, like that of the breaſt and ſhoulders: the back is white, but there are a number of coal-black feathers on the ſides; and the long feathers, which have their origin from the ſhoulders, are alſo black: the wings are long, and are black and white; many of the long feathers, and all the covering or ſhort ones, except thoſe in the extream joint, are white; theſe excepted ones are black, and they make a beautiful variegation: ſome of the long feathers, which are white in the middle, are tipped with black at the ends, or edged with it at the ſides: the long feathers are about twenty-eight in each wing: the tail is ſhort, and is compoſed of twelve feathers; theſe are white, and are all of them, except the two outer ones, tipped with black at the extremities.

The legs are ſhort and robuſt; they are of a pale fleſh colour, and the ſkin which covers them is ſo thin, that the courſe of the ſeveral veſſels is eaſily ſeen through it: the feet are large and webbed; the hinder toe is ſhort, and the claws are all ſhort, black, and obtuſe.

It is frequent with us about the coaſt of Lancaſhire, and in Wales: it's fleſh is coarſe and ill-taſted, but it is eaten by the common people. It builds with us, and uſually makes it's neſt in holes of the ground. If there be any deſerted rabbet-burrows, or any other hollows of a like kind, it never fails to build in them, and has hence obtained, among our common people, the name of the Burrough-duck. All the writers of birds mention it. Ray and Willughby call it Tadorna and Vulpanſer; Bellonius, ſimply, Tadorna. It's elegant variegations of colour, which, in their brightneſs and regularity of diſpoſition, in ſome degree reſemble thoſe on certain ſhells, has obtained it alſo with us the name of the Shell-drake, or Shell-duck.

Anas roſtri ungue obtuſo, cera ſuperne biſida rugoſa.
The Anas, with the unguis of the beak obtuſe, and the cera biſid and rugoſe.

St Cuthbert's Duck.

This is a very beautiful bird; but the male and female differ ſo extreamly, that they may eaſily be miſtaken for diſtinct ſpecies: the male is in general white, almoſt the whole body is of this colour: the head is large and rounded; the eyes are large,

and

and their aſpect bright and piercing: the beak is very large and long; it's length is not leſs than three inches; it is not ſo flatted, as in many of the Anas kind, but of a regularly ſemicylindric figure: the end is obtuſe, and the whole verge is pectinated: the baſe is covered with a rugoſe membrane, divided into two portions at the top: the noſtrils are large and black.

The top of the head is black, and the large ſpot of this colour, in that part ſo different from the reſt, has the appearance of a hat on the head of the bird: this large ſpot is divided into two parts behind, and terminates in three points before; the ſeveral angles being directed toward the ſinus in the membrane which covers the baſe of the beak: the back is white, but the lower parts of the breaſt and belly are black: the rump alſo is black, and ſo are the long feathers of the wings, and thoſe which cover the thighs: the tail is ſhort, and all the feathers which compoſe it are black: the hinder part of the head, cloſe behind the ſpot which forms the appearance of a hat, is of a fine gloſſy, changeable green: in ſome the anterior part of the breaſt is ſimply white, in others, though all males, it has a tinge of reddiſh, and this fleſhy tinge varies extreamly in thoſe which have it.

The female is of a quite different appearance; her body is all over of the colour of that of a wood-cock, a duſky grey, with brown ſpots, and ſome black ones, and has a very remarkable and narrow line of white running acroſs the wings.

We have this ſpecies in plenty among us. It builds on our coaſts among the rocks, and in the hollows and crannies of the cliffs, and lays a number of large and very well-taſted eggs. The neſts are ſo often plundered for theſe, that one would almoſt wonder at there remaining enough to continue the ſurpriſing plenty of the ſpecies, that we ſee about the ſame places the next ſeaſon. The feathers of this ſpecies are alſo ſofter than thoſe of almoſt any other bird, and are greatly valued for ſtuffing of beds, and other ſuch purpoſes. Bartholine calls it Anas plumis molliſſimis vulgo Eider; Wormius, Willughby, and moſt of the other writers have continued to it the name of Anas plumis molliſſimis; and our authors have alſo called it Anas ſancti Cuthberti and Anas Farinenſis. The peaſants, in ſome part of the kingdom, where it builds in the midſt of high cliffs, venture themſelves from the top with ropes about their middle, in a ſurpriſing and frightful manner, for the ſake of their eggs.

Anas cauda cuneiformi forcipata.
The Anas, with a forked, cuneiform tail.

The Sea-pheaſant, or Craker.

This is a very beautiful bird, but it is much ſmaller than any of the preceding ſpecies; the ſize is about that of our widgeon: the male and female of the Anas kind differ extreamly, but in few more than in this; the male is ſomewhat the larger: the head is large and round; the eyes are large; the beak is alſo large, in proportion to the ſize of the bird: it is convex on the back of a ſemicylindric figure, and obtuſe at the extremity; it's general colour is black, but in the middle it is of a bright red: the noſtrils are large and oblong; the verge of both chaps is dentated, by means of a kind of patulous ſquammæ: the fauces alſo are dentated, and the tongue is divided into three obtuſe portions at it's extremity: the two lateral ones are ſmall, and the middle one large.

The head and neck are white, but there are two large black ſpots on the head, one on each ſide; the back is black; the breaſt is alſo black, and the wings are, on their upper ſide, black, without a ſingle ſpot of any other colour, and on the under-part they are uniformly grey: the tail is of a cuneiform figure, and is black on the upper ſide, and white underneath: the feathers which compoſe the tail are ſixteen in number, and their proportions, as well as number and arrangement, are different from thoſe of any other ſpecies: the two middle ones are conſiderably longer than any of the others, and run out into ſlender and ſharp points; 'tis from this ſingularity that the bird has obtained the name of the Sea-pheaſant.

The

The female of this ſpecies has the back all over of a grey, clouded with blackiſh, and the belly white: the tail is of the ſame ſingular figure as in the male, but the middle feathers, though longer than the others, do not in this ſex ſo much exceed them: the legs are ſhort and ſlender, but the feet are large, broad, and webbed: the toes are ſlender, and the claws are obtuſe and ſhort.

All the writers on birds have named this ſpecies. Willughby calls it Anas cauda acuta; Wormius, Anas Iſlandica, and in another place, Anas cauda acuta Iſlandica Kanelda ipſis dicta. We call it the Craker and the Sea-pheaſant.

Anas caudæ rectricibus intermediis recurvis.
The Anas, with the intermediate rectrices of the tail crooked.

The common Wild Duck.

The male and female in this common kind differ as much as in many of the more rare ones: in the male the head is of a very elegant and changeable colour, a deep blue and a deep green diſtinguiſh themſelves in the different lights in which it is viewed: the back is of a ferrugineous brown, and the rump has ſomewhat of fine ſilky green: the breaſt and belly are of a pale whitiſh-grey, very elegantly undulated, and variegated with five ſlender and ſhort ſtriæ, placed very cloſe together: the wings are brown on the upper ſide, and white underneath; the long feathers are partly grey, and partly brown: the grey ones have little variegations, but the brown are ſome of them tipped with white, and a conſiderable number of the others are of a deep violet blue in the middle, with ſome blackneſs about it: theſe ſtand together, and the dark and beautiful colour in them gives a very ſingular beauty to the wing, forming a large and elegant ſpot in it: the covering feathers of this part of the wing are grey, at the edges whitiſh in the middle, and black at the extremities; thoſe next the ſides are ſimply of a greyiſh-brown.

The tail is ſhort; the four middle feathers of it are black and curled, or turned; the others are of a greyiſh-white: the legs are of a dark yellowiſh-brown; they are covered to the knees with feathers: the female has nothing of the beautiful variegations of the male, but is of a ſimple dark brown.

This is the moſt plentiful of all the Anas kind with us, and we keep it alſo tame in vaſt abundance for the ſupply of our tables. It feeds on almoſt any thing, whether of the animal or vegetable kind, and, when kept, ſome vary extreamly in colour, and to nothing oftener than to a perfect white. All the writers on birds have deſcribed it. Geſner calls it Anas fera torquata; Aldrovand, Boſchas major ſive Anas torquata; and Ray, Willughby, and others have continued the ſame name. Many of the late writers, however, have deſcribed it again in it's tame ſtate, as if another ſpecies, and called it Anas domeſtica vulgaris. This is the caſe alſo with theſe authors, in regard to the gooſe, the ſwan, and, in ſhort, every other bird that is kept tame at our houſes, and is wild alſo in our fields or rivers; the cuſtom was, at one time, carried ſo far, that one Lovel, who has written a hiſtory of animals under the name of a Panzoologicon, when he comes to treat of the bull, has one chapter for that, another for the cow, a third for the calf, and a fourth for the ox.

Anas facie nuda papilloſa.
The Anas, with a naked papilloſe face.

The Muſcovy Duck.

This is a very beautiful bird; it is much larger than our common duck, and is nearer the ſize of the gooſe: the male is, as in many other ſpecies of this genus, extreamly different from the female in colouring, and is particular in this, that he has about the middle of the hinder part of the neck a number of red, naked papillæ: the females are very various in their colouring, but the principal colours are black and white: the head is large and rounded; the eyes are large, and very bright and piercing; the beak is large and long, but it differs from that of moſt of the duck-kind, in that it is

bent at the extremity: between the eyes, but lower, and toward the top of the noſtrils, there ſtands a red, fleſhy protuberance, of the figure of a common red cherry: the temples have no feathers on them, but are covered with a naked, ſcarlet, fleſhy matter, of a granulated ſurface.

The body is principally black, but it has more or leſs variegations of white, and differs alſo in the diſpoſition of them.

We have this in moſt parts of Europe tame, but where it is wild is not certainly known. All the late writers on birds have mentioned it. Aldrovand calls it Anas Indica; Ray, Anas moſchata; and Willughby, Anas Lybica Bellonii. The whole bird has a perfumed ſmell, approaching to that of muſk. It is a very quick breeder, and lays a great number of eggs, which are large and well taſted.

Anas criſta dependente, corpore nigro, ventre maculaque alarum albis.

The Anas, with a hanging creſt, a black body, and a white belly, and a white ſpot on the wings.

The tufted Duck.

This is a very beautiful bird, and is about the ſize of our common duck: the head is large and round; the eyes are moderately large and bright; their iris is of a fine gold yellow: the beak is moderately long, and very broad; it is ſerrated all the way at the edge, and rounded at the end, and is of a deep blue colour throughout, except at the extremity, where it is black: the noſtrils are large, and between them there runs in upon the beak an angle of feathers: the ears are ſmall, as is indeed the caſe in all the birds that are formed for diving.

The upper part of the head is of a duſky purple colour, tending to black, or perhaps, more properly ſpeaking, it is black, with a tinge of purple, whence it is in Venice, and ſome other places, called Capo nigro, or the black head, and it has a cirrhus or creſt growing on the back part of the head, and hanging down upon the neck, of an inch and a half in length: the neck is black; the ſhoulders, back, rump, and covering feathers of the wings are alſo in general black, or of a very deep colour, nearly approaching to that.

The wings are ſhort, but they are well feathered; the four outer long feathers are of the ſame colour with the body, but the others are many of them variegated, more or leſs, with a bright ſnowy white: the tail is very ſhort, and is compoſed of fourteen feathers, all black throughout.

The fore-part of the neck and the top of the breaſt are black, but the reſt of the breaſt and the whole belly are of a ſilvery white, and the ſide feathers, and thoſe which cover the thighs, are of the ſame colour: the legs are ſhort, and of a deep duſky bluiſh-black: the feet are large and webbed thoroughly; the toes are long; the membrane which connects them is black; the claws are ſhort and obtuſe: the body is thick and ſhort; the ſides of the head are, in ſome of the birds of this ſpecies, decorated with a white ſpot, each way at the angles of the beak, but this is not univerſal.

We have this ſpecies kept in ſome places. It is a native of the ſea-coaſts of ſome of the northern parts of Europe. Moſt of the authors who have written on birds have deſcribed it. Geſner calls it Anas fuligula prima; Aldrovand, Querquedula criſtata ſive Colypus Bellonii; Ray, and others, Anas criſtata. We call it the creſted or tufted Duck.

Anas

Anas nigro alboque variegata, capite nigro virescente, sinu oris alba macula.
The Anas, with a greenish-black head, a black and white body, and a white spot at the mouth.

The Golden-eye.

This is a very beautiful species: the body is short and thick; the head is large and rounded; the eyes are large, and their iris is of a fine bright yellow, approaching to that of burnished gold: the beak is black; it is not long, but very broad, and is much broader at the base than at the extremity; it is serrated all the way round.

The head is of a very deep colour, approaching to black, but with a fine tinge of a grass-green thrown over it; and at the angles of the beak there is on each side a spot of white, which is round, and has in some degree the appearance of an eye, whence the Italians have called the bird Quattro occhii, or four eyes: the neck is short; the whole of that, as also the shoulders, the breast, and the whole belly are of a fine silvery white: the lower part of the back is all over black: the wings are variegated with black and white, and that in a very particular manner; for the middle feathers are all white, and the outer and inner are black: it is not only the long feathers or remiges that are of these separate colours, but the covering ones too, those over the white long feathers being white, and those over the black ones black; from the shoulders there hang a number of long feathers down on each side of the back; these also have a little white in them, by way of variegation: the tail is composed of sixteen feathers, and is entirely black.

The legs are very short, but they are robust and thick; the feet are large, and very deeply webbed: the toes are long, and they have a blackishness about the joints, otherwise the whole foot, as well as the leg, is of a deep yellow, with a tinge of orange: the membranes which connect the toes are of a dusky colour; the hinder toe is small, but it is increased in breadth by a membrane on each side, and it's claw is black, but very short.

The female differs considerably from the male in this species: the head is of a bluish-red; the back, the sides, and the tail are brown: the breast is of a grey in the anterior part, and is variegated at the sides with undulated lines of a pale or hoary colour, and the belly is white: the wings are spotted, and variegated with black and white, as in the male, but they have more white than in that sex; the legs also are of a paler yellow.

We have this species about the sea-coasts of some parts of England, but it is far from common with us, though in some other of the northern parts of Europe it is very frequent. All the writers on birds have described it. Gesner calls it Clangula; Aldrovand, Clangula and Anas Platyrynchos mas; and most of the others have called it either Clangula, or Platyrynchos Anas. We, from the remarkable yellow of the iris of the eye, call it the Golden-eye.

Anas macula alarum rufa, nigra, alba.
The Anas, with the wings variegated with brown, black, and white.

The Gadwall, or Grey.

This is of a middle size, between the teal and the duck, though more the size of the duck than of the other, and it's body is long and slender: the head is moderately large and rounded; the eyes are large and piercing in their aspect; the beak is formed like that of the teal, broad and flatted, and armed with it's unguis at the end: the under chap of it is yellow, and the sides of the upper chap are also yellow, but it's middle is black: the nostrils are large, and the yellow of the beak has a tinge of the orange in it.

The

The head is of a greyiſh-black, but the edges of the feathers which fall down toward the throat, have a tinge of bluiſh: the ſides of the head near the beak, and juſt under it, are white, variegated with ſpots of brown: the back is of a deep and duſky brown, only the edges of the feathers are of a whitiſh-red: the rump is wholly black; the lower part of the neck, the ſhoulders, and the top of the breaſt are covered with very ſmooth and gloſſy feathers, variegated in an elegant manner with black and white: the lower part of the breaſt is white; the belly is of a pale brown, and is variegated with tranſverſe ſtreaks of black, and under the tail there are ſome tranſverſe ſtreaks of brown: the ſides are very beautifully variegated with alternate lines of black and white: the tail is very ſhort; it ſcarce appears beyond the feathers which cover it, and is compoſed of ſixteen robuſt but ſhort feathers terminating in ſharp points: theſe are white at the tips, and ſome of them alſo at the edges, but the reſt of the feather is brown.

The wings are long, and there are twenty-ſix feathers in each; theſe are variegated with black, white, and brown, and make a very pretty figure in the wing; ſome of them being ſimply of the one of theſe colours; ſome partly of the one, and partly of the other: the covering feathers alſo are variegated with white, and with a reddiſh-brown, upon a ground of a ſimpler brown.

The legs are ſhort and robuſt; they are feathered as far as the joint of the knee, and their naked part is white: the hinder toe is very ſmall, the others are connected by a broad and ſtrong membrane; they are long, and conſequently the foot itſelf is large, and admirably calculated for the bird's ſwimming: the colouring in the wings of this ſpecies ſufficiently diſtinguiſhes it at firſt ſight from all the others of the genus; there are marks of black of a reddiſh-brown and of white, diſtinct and ſeparate, and are placed juſt over one another.

This is a native of our fen countries, and is much eſteemed at table; moſt of the writers on birds have deſcribed it. Geſner calls it Anas ſtrepera; Aldrovand, Anas Platyrynchos; and Ray, Anas Platyrynchos roſtro nigro et plano. We call it the Gadwall or the Grey.

Anas roſtri extremo dilatato rotundoque, ungue incurva.
The Anas, with the extremity of the beak broad and round, and it's unguis bent. **The Shoveler.**

This is a very ſingular ſpecies; it is very nearly equal to our duck in ſize: the head is large and rounded, and the eyes large and bright, but the beak is of ſo ſingular a form, that it diſtinguiſhes it at ſight from all the others; it is conſiderably long and large, but as the others are uſually broadeſt at the baſe, and ſomewhat ſmaller at the point, this, on the contrary, is broadeſt at the extremity: it is there flatted, and even hollowed in ſome degree, and is terminated by an unguis, which is ſmall but bent: the edges of both the upper and under chaps are ſerrated, or furniſhed with a kind of pectinated border: the tongue is large, thick, and fleſhy, eſpecially toward the extremity.

The head and the upper part of the neck are of a beautiful blue, and ſometimes of a deep green, with a caſt of brown in it, changeable in the different lights, like the colour of the common drake's neck: the lower part of the neck is white in the forepart, and on the hinder of a mixt white and brown: the ſhoulders alſo are of the ſame brown and white mixed colour: the breaſt and the belly are reddiſh and black; juſt under the tail there are ſome black feathers: the back is of a deep brown, but there is a changeable ſhade of a very beautiful purpliſh thrown over it, and ſome lights diſcover a tinge of deep green in this: the feathers which cover the thighs are variegated with tranſverſe black lines.

The wings are long and large; the long feathers are twenty-four in each: theſe are ſome of them entirely brown, and others have the edges tinged with greeniſh, purpliſh,

pliſh, or bluiſh, as ſeen in different lights, and the four that are next the body have ſome variegations of white: the tail is ſhort, and is compoſed of fourteen feathers; it is variegated with black and white: the female is very different from the male in this ſpecies; it entirely reſembles the common wild-duck, except in the wings, which are like thoſe of the male.

The legs are ſhort, and the feet ſmaller than in moſt of this genus; they are of a bright red colour, and the membrane which connects the toes is ſerrated. It is ſaid by many, that this bird changes it's colour in the winter; but I am rather apt to believe, that they miſtake ſome different ſpecies for it, which they do not examine, or which they only ſee at a diſtance, or on the wing.

All the writers on birds have named this. Geſner calls it Anas Platyrinchos major; Aldrovand, Anas latiroſtra major, and Anas latrioſtra fuſca; for he deſcribes it twice, as if two ſpecies; Willughby calls it Anas Platyrinchos major ſive Clypeata Germanica. We have it in ſome parts of England, but it is not frequent with us; in other parts of Europe it is very common, and moſt ſo in the more northern.

Anas macula alarum purpurea, utrinque nigra albaque, pectore rufeſcente.

The Anas, with the ſpot of the wings purple, and black on each ſide, and the breaſt reddiſh.

This is a very pretty bird; it is nearly, but not altogether, of the ſize of the common duck: the head is large and rounded; the eyes are ſmall, and their iris is yellow: the beak is large, and is very broad, in proportion to it's length; the noſtrils are oblong, and ſtand high for one of this ſpecies: the whole beak is of a mixed brown and yellow colour.

In the male there is an extreamly elegant ſpot on the wing, of a violet colour, edged with black, and on the outſide of that with white; this is ſo ſingular, that it cannot fail to diſtinguiſh the bird, at ſight, without farther deſcription.

The female has a ſpot of the ſame form and kind with the male on her wings, only in this the colour is paler: in the male it is a deep violet or purpliſh-blue, but in the female it is a clearer blue, with much leſs of the addition of the purple: the breaſt in both the female and male is of a pale reddiſh-brown; the tips of the wings, and alſo their ſummit, is grey, and the tail is ſhort and white: the back is of a brown colour, with a tinge of ferrugineous towards the ſides; and the under part is of a ferrugineous colour, with ſpots of a duſky brown: the throat is of a very pale ferrugineous tinge, aud is not at all ſpotted: the body of the wings is of a greyiſh-brown, and their long feathers are partly ſimply brown, and partly brown, tipped with white; and ſome have white near the extremity, but the abſolute tip is black.

The legs are ſhort, and not very robuſt, nor are the feet large, but they are deeply webbed: the hinder toe is very ſhort; the colour of the legs and feet is a yellow, approaching to reddiſh.

Ths ſpecies is frequent in many parts of Europe, but I have not met with it in England. I have been told of a ſpecies caught in the decoys of Lincolnſhire, which by deſcription anſwers to this, but have never ſeen it. All the authors who have written on birds have deſcribed this. Aldrovand calls it Anas Platyrinchos pedibus luteis; and Ray, Willughby, and moſt of the others have followed him in this.

Anas oculorum iridibus flavis, capite griſeo, collari albo.
The grey-headed Anas, with yellow eyes.

The Glaucion.

This is nearly of the ſize of the common wild-duck, and is a very elegant bird: the head is large, and of a rounded, not a depreſſed, form; the eyes are bright, and very piercing in their aſpect; their iris is of a fine gold yellow: the beak is large, broad, and ſerrated all round the edges: the noſtrils are large and oblong, and the baſe of the beak is remarkably firm and robuſt.

The head and half the neck are of a deep, duſky, ferrugineous colour in this part, or at the bottom of the ferrugineous portion of the neck there is a circle of white carried quite round it, in form of a collar: the breaſt is of a fine ſilvery grey colour; the belly is perfectly white: the back is of a deep black, and the wings, while they are cloſed, appear to be alſo black entirely, but, when they are expanded, they ſhew ſeven white feathers: the tail is ſhort and black; the legs are ſhort, but robuſt; the feet are broad and webbed, and the hinder toe is very ſhort.

This is a freſh-water fowl, and is very frequent in moſt of the northern parts of Europe, but leſs ſo in England than almoſt any where elſe. It dives almoſt continually, and will keep under water a vaſt while at a time. Moſt of the writers on birds have named it. Bellonius calls it Glaucium and Glaucus; and moſt of the writers who have followed him, have called it Glaucion, or Glaucium Bellonii.

Anas capite brunno, fronte alba, cauda ſubtus nigra.
The Anas, with a brown head, a white front, and a tail black underneath.

The Widgeon.

This is a ſmaller bird than the duck, but conſiderably larger than the teal: it's head is large and round, and it's beak large, but not ſo long, in proportion to the body, as that of the common duck: the eyes are ſmall; the noſtrils are oblong and narrow: the beak is ſerrated all the way round, and is obtuſe, but not remarkably broad, as in ſome ſpecies, at the extremity.

The head and the upper part of the neck are of a reddiſh colour, ſprinkled over with blue ſpots: the front of the head, toward the baſe of the beak, is of a paler red than the reſt, and has a tinge of yellowiſh-white in it: the upper part of the breaſt and the ſides, under covert of the wings, are of an extreamly bright and beautiful purple, variegated, in an elegant manner, with tranſverſe lines of black: the middle of the back is brown; the edges of the feathers, however, are very beautifully variegated with grey, eſpecially toward the hinder part: the covering feathers of the tail are black; the lower part of the breaſt, and the whole belly, are of a whitiſh tinge, but there is ſomething of yellow mixed in it: the feathers which cover the thighs are variegated with numerous, oblong ſpots of a reddiſh-brown, and the feathers which are under the tail are of a mixt black and white, and have ſome of the ſame ſpots in them.

The tail conſiſts of fourteen feathers; the twelve outer ones, ſix on each ſide, are of a deep brown, with their edges of a greyiſh-white: the two middle ones are black, only with a ſlight admixture of grey.

The legs are ſhort, but they are robuſt; their colour is a very pale bluiſh-grey, or lead colour, with ſome admixture of white in it. All the writers who have treated of birds have deſcribed this, and almoſt all under the ſame name Penelope; ſome few have called it Anas fiſtularis. We have it in great plenty in our fen countries, as about Crowland in Lincolnſhire in vaſt abundance. It feeds on the herbage at the bottom of freſh waters, and on the water inſects.

Anas

Anas corpore obſcuro, macula pone oculos, lineaque alarum alba.
The dark-coloured Anas, with a white ſpot behind the eyes, and a white ſtreak on the wings.

This is one of the larger kinds; it is conſiderably bigger than a duck, and indeed little inferior to the gooſe in ſize: the head is large and rounded; the eyes alſo are large: the beak is very remarkably large, and reſembles that of the gooſe rather than of the duck; it is very thick as well as broad, and is ſerrated all the way round at the edges: it's colour is red, except at the baſe, where it is black and gibbous: the noſtrils are oblong and wide.

The head as well as the body are of ſo deep a colour, that it appears black, but, when cloſely examined, it is rather an extreamly duſky brown, with a tinge of iron grey: behind the eyes, and a little below the level with them, there is on each ſide an elegant ſpot of ſnow-white: the back is of a deeper colour than any other part.

The wings are long and well plumed; the long feathers are all black, but the firſt ſeries of the inveſtient ones are white: the tail is ſhort and black; the legs are red, and ſo are the toes, but the membrane which connects them is black.

This is the deſcription of the male of this ſingular ſpecies; but the female, as in many others, differs conſiderably from it: the head, in thoſe of this ſex, is ſmaller; the beak alſo is conſiderably different; it is not red but brown, and has not that gibboſity on the upper part which characters the other, and the edges of the jaws are lamelloſe or dentated: the tongue is alſo fimbriated or lobated at it's edges, and the body is not of that deep colour, but of a fainter brown, with the tips of the feathers whitiſh, or at leaſt of a vaſtly paler brown: the long feathers are ſome of them black, and others white throughout, except at the tips, where they are alſo black: the legs are of a paler red than in the male, but the membrane which forms the web connecting the toes, is alſo black; there is the ſame white ſpot behind the eyes in this as in the male, and the temples alſo in this are white.

This is a native of many of the northern parts of Europe, but has not been met with in England. It is a favourite fowl at the table, wherever it is native. Many of the authors, who have written on birds, have deſcribed it. Jonſton calls it Anas fera fuſca; Rudbeck, Anas fera nigra; Willughby, Ray, and others, Anas niger.

Anas alis cinereis immaculatis, urrhopygio nigro.
The Anas, with grey wings, and a black rump.

The Pochard.

This ſpecies reſembles the widgeon in moſt particulars, but it is very nearly equal to the duck in ſize: the head is large and rounded, and the eyes are but ſmall; the beak is long, but it is not ſo broad as in many of the duck-kind: the upper chap is of a lead colour, and has a black unguis at it's edge; the lower is entirely black, and both are ſerrated round the edges; the iris of the eye is of a reddiſh colour.

The head and neck are of a ſingular brown colour, with ſome faint tinge of red, but more of yellow in it: the middle part of the breaſt is white, but the extremities of the feathers have a yellowiſh tinge; the lower part of the breaſt, toward the belly, is alſo white, but it is variegated with lines of brown: the wings are long, and their principal feathers are all of a ſimple blackiſh-grey, without any ſpot or variegation: the tail is ſhort, and it's feathers are alſo of one ſimple colour, which is a greyiſh-brown: the lower part of the neck and the rump are black, and the back is variegated with undulated lines of grey and brown.

The legs are ſhort and ſlender, and of a duſky lead colour: the membrane connecting the toes is black.

This

This is frequent with us in the fen countries, and is taken in the decoys with the common wild-duck, but it is not ſo much valued as the common widgeon. Our people diſtinguiſh it by the name of the Pochard, but it is often ſold under the name of the widgeon. Moſt of the writers on birds have mentioned it. Geſner calls it Anas fera fuſca vel media; others, ſimply, Anas fera fuſca; but this confounds it with another ſpecies.

Anas macula alarum viridi, linea alba ſupra oculos.
The Anas, with a green ſpot on the wings, and a white line over the eyes. The Garagney.

This is about the bigneſs of the common teal, and in many particulars it greatly reſembles it: the head is ſmall, and, though not depreſſed, is much leſs prominent or rounded than in any other of the ſpecies: the eyes are ſmall; the beak is oblong, flatted, ſomewhat broad and black, ſerrated at the edges, and obtuſe and rounded at the end: the top of the head is black, and there is a white line on each ſide, running from the eyes quite down to the neck, and reaching to it's middle: the throat is black; the breaſt is variegated in an undulatory manner, with black and grey; the back is of a very ſingular colour, a deep brown, with a tinge of purple thrown over it: the feathers which cover the thighs are alſo variegated with black and white.

The wings are long, and the principal feathers of them are variegated with a deep brown, and a kind of mouſe colour, and ſome of them alſo with white: the more elegant ones have a part of their anterior ſurface of a bright and beautiful green, and that forms the elegant ſpot on the wing: the tail is ſhort, and is compoſed of fourteen feathers; they are brown, and the outer ones variegated with whitiſh-brown ſpots.

The female of this ſpecies is very like the male, but has leſs variety in the colouring, and is known at ſight by the want of the black throat of the male.

This ſpecies is frequent in our fen countries, and is much eſteemed at table. The authors who have written on birds have almoſt all deſcribed it. Aldrovand calls it Querquedula prima; and moſt of the others have called it by the ſame name, or elſe, by as little expreſſive a one, Querquedula altera.

Anas macula alarum viridi, linea alba ſupra infraque oculos.
The Anas, with a green ſpot on the wing, and a white line both above and below the eyes. The Teal.

This is the ſmalleſt of all the duck-kind, but it is a very elegant and valuable bird: the head is ſmall, and not remarkably rounded or prominent; the eyes are large, and their iris is of a ſingular colour, a hazel, approaching to whitiſh: the beak is ſhort, but it is broad, obtuſe, and a little turned up at the end; the edges are ſerrated all round, and the colour of the whole beak is black: the noſtrils are conſpicuous, and of an oval figure: the head is of a reddiſh-brown, as are alſo the throat, and the whole upper part of the neck: from the eyes there runs each way, to the hinder part of the head, a beautiful broad line, of a fine ſilky gloſs, and of a duſky green colour; and between theſe, on the under part of the back of the head, there is a black ſpot: under the eyes, on each ſide, there runs a very bright ſtreak or oblong ſpot of white, ſeparating the green from the general brown colour of the head: the lower part of the neck, as alſo the back and the ſides, under covert of the wings, are all of a beautifully variegated hue, every feather being particoloured, and the lines tranſverſe and undulated, partly black, partly white: the lower and anterior part of the neck is, in ſome birds of this ſpecies, of a yellowiſh hue, ſpotted with black, but this is not the caſe in all: the breaſt is of a dingy white, or grey, as is alſo the belly, only paler, or nearer

nearer a genuine white than the breaſt; and below the rump there is an elegant black ſpot, ſurrounded with a verge of yellow.

The long feathers in each wing are twenty-five, ſome of theſe are ſimply brown, ſome have ſome white in their variegations, and ſome have not only white but black alſo; at the ſixteenth feather, from the edge of the wing, the green begins to ſhew itſelf, and it is continued in the ſeveral ſucceeding ones in ſuch manner, as to make that beautiful ſpot which we ſee on the wings: ſome of the inner feathers, or thoſe next the body, have not only black, but yellow, in the variegations.

The legs are ſhort, and not very robuſt; they are of a pale brown, as are alſo the toes, but the membrane which connects theſe, and forms what is called the web of the foot, is black: the inner of the three anterior toes is the ſhorteſt, and the hinder toe is not augmented by any membrane. The female of this ſpecies differs very obviouſly from the male: the head has nothing of that elegant red or green, which are ſo elegant in the male; nor is there the black ſpot ſo ſingular in the male, at the rump of that ſex; the feathers of the back alſo want that undulatory variegation, which is ſo beautiful in the male.

This ſpecies is frequent with us on our large freſh waters, and it's fleſh is ſo well-taſted, that it claims the preference againſt the whole genus at table. All the writers on birds have deſcribed it. Geſner calls it, ſimply, Querquedula; Aldrovand, Phaſcas ſive Querquedula minor; Willughby, Querquedula ſecunda; and others, Querquedula francia and Querquedula francia altera, diſtinguiſhing the male and female as if two diſtinct ſpecies, an error too common among this ſet of writers.

Anas cauda longitudine pedum, vertice fuſco, pectore exalbido nebuloſo.
The longer-tailed Anas, with a brown head, and whitiſh-clouded breaſt.

This is an uncommon but a very beautiful ſpecies; it is of the ſize of the widgeon, and in it's make more reſembles that particular ſpecies which we call the ſea-pheaſant, than any other of the Anas-kind: the head is ſmall, but rounded; the eyes are ſmall, and their iris of a bright hazel, with an admixture of an orange colour: the beak is moderately large, broad, flatted, thick at the baſe, and rounded at the point; it is ſerrated all the way along the edges, and the noſtrils are large and oval: the colour of the whole beak is a very deep olive, approaching to black.

The head is of a duſky brown at the top, and paler elſewhere: the neck is of a deeper brown, and the back alſo is brown, but not ſo deep: the breaſt is of a whitiſh colour, but clouded in a very elegant manner with a greyiſh-brown: the wings are moderately long, and there is an elegant ſpot at their origin: the tail alſo is longer than in the generality of the duck-kind, but not equal, in this reſpect, to that of the ſea-pheaſant: the legs are ſhort and tolerably robuſt; the toes are long, and conſequently the foot is large: the legs and the toes are of a duſky or dingy colour, between an olive and a lead blue, but the membrane which connects the toes is black: the hinder toe is very ſhort, and the outer one of the three anterior is conſiderably longer than the inner.

This is a native of ſome of the moſt northern parts of Europe, but it has been little known; ſcarce any of the writers on birds have named it. Linnæus mentions it as a native of Sweden, and quotes Olaus Rudbeck for his authority. We have had ſtuffed ſkins of it brought over by the people concerned in the whale-fiſhery from Greenland.

Anas teſtaceo-nebuloſa, ſupercilliis albidis, roſtro pedibuſque cinereis.
The clouded, brown Anas, with white eye-lids, and grey legs and beak.

The ſummer Teal.

This is a pretty and an extreamly ſingular ſpecies; it does not at all exceed the common teal in ſize, and in colouring it excels it: the head is ſmall and rounded; the eyes are ſmall, and their iris of a pale hazel, with more or leſs of a tinge of orange in it: the beak is ſmall, but flatted, broad throughout, and rounded at the end in the manner of all the duck-kind, and reſembles that of the teal in particular, by it's turning a little up at the extremity: the colour is a duſky grey, and the noſtrils are large, oval, and black.

The head is of a pale brown, with a tinge of reddiſh; the upper part of the neck alſo is of the ſame colour: the eye-lids are white, and there is ſome whiteneſs alſo all about the eyes, which gives a ſingularity in the general aſpect: the back is of a brown colour, not pale, but very bright and gloſſy, and clouded with grey; the breaſt and belly are of a whitiſh colour, but with a tinge of yellowiſh-brown; but the upper part of the breaſt, and the lower of the belly, are elegantly variegated with cloſe-ſet ſpots of black: the wings are moderately long, and the tail is ſhort: the legs are ſhort and ſlender; they are of a greyiſh colour, and the membrane which connects the toes is black; the hinder toe is very ſhort and inconſiderable.

We have this ſpecies on our freſh waters, but it has been overlooked by many of the writers on this ſubject, it's ſize making it frequently miſtaken for one of the Dobchick. Geſner has deſcribed it, but imperfectly, under the name of Anas Circia; and thoſe who have ſince mentioned it, have in general borrowed his name.

Anas rufa roſtro pedibuſque cinereis.
The reddiſh-brown Anas, with grey legs and beak.

This is a ſingular, but not a very beautiful, ſpecies; it has leſs variegations or gaudineſs of colour than moſt of the ſpecies, but it ſtrikes the eye by the remarkable tinge that it has almoſt univerſally diffuſed over it. It is of the ſize of the widgeon, or not quite ſo large: the head is large, in proportion to the bulk of the body; the eyes are ſmall, and their iris is of a dead or whitiſh hazel: the beak is long and moderately broad; it is flatted all the way, except at the baſe, and is rounded at the extremity, and ſerrated all along the edges: the colour of the whole is a pale bluiſh, with a tinge of grey, only that the noſtrils which are large and oval are quite black.

The back of the neck, and the whole upper ſurface of the body, the back wings, ſides, and rump, are of a very ſingular colour, a reddiſh-brown; the red ſeems of a deep hue, and is ſo perfectly blended with the ground colour, that it ſcarce any where diſcovers itſelf in any light; and the reſult of the perfect union is a peculiar colour, approaching to what we expreſs by the term copper colour; it is unlike any thing that we ſee elſewhere in the colouring of the duck-kind, and always claims attention: the wings are moderately long; the tail is ſhort; the breaſt and belly are of a pale colour, and the legs, which are ſhort, and not very robuſt, are of the ſame greyiſh-blue with the beak; but the membrane which connects the toes, and forms the web of the foot, is black.

I ſaw three or four of theſe birds the laſt winter, on Whittle-ſea-meer in Cambridgeſhire, and was ſo lucky as to kill one of them. I find, by the people who reſide at Yaxley, and other little towns in the neighbourhood of that vaſt extent of freſh water, that it is common there. It is ſingular, that a bird, ſo well known to the peaſants, ſhould be ſo perfectly overlooked by the writers of our own country, but not one

one of them have ſo much as named it. I have the ſkin of that which I killed now preſerved, and the colouring, though ſo ſimple and uniform, ſtrikes every eye that ſees it, by it's ſingularity. Linnæus has evidently mentioned it, and gives the authority of his countryman Rudbeck, that it is a native of Sweden, and lives about freſh waters: but that author calls it a rare ſpecies; he calls it Anas fluviatilis rufa roſtro pedibuſque cinereis.

Anas viridi-nigreſcens capite criſtato.
The greeniſh-black Anas, with a creſted head.

The Braſilian creſted Duck.

The general figure of this ſpecies has occaſioned thoſe, who diſtinguiſh the duck and gooſe-kinds, to refer this to the former, though the bigneſs would have naturally enough referred it to the latter; it is at leaſt equal to our common gooſe in ſize: the head is large, and of a very ſingular appearance; it is very rounded and protuberant; the eyes are large, and their iris is of an orange ſcarlet; their aſpect is very fierce; the beak is long and large, it is thick at the baſe, but flatted in all other parts, and rounded at the end: it's colour is a duſky orange; the noſtrils are oval, large, and black: at the baſe of the beak there is a large protuberance of a naked, fleſhy matter, of a high and elegant red colour, and the eyes are alſo ſurrounded with a naked, fleſhy matter, of the ſame colour, and of a corrugated or wrinkled ſurface.

The top of the head is of a deep black, but there is an elegant green diffuſed all through that colour, and in ſome lights ſhewing itſelf almoſt ſolely, without any appearance of the black: the top of the head is ornamented with a creſt, formed of a very large tuft of black feathers: the back, wings, breaſt, and belly, in ſhort, the whole bird, are of the ſame blackiſh-green with the head, and that very beautiful, only the tops of the wings are white.

The legs are long and thick, and of a beautiful orange ſcarlet; the toes are long, and the membrane which connects them, and forms the web of the foot, is ſerrated: the hinder toe is very ſhort and inconſiderable; the inner one of the three anterior is much ſhorter than the outer: the legs are not ſituated ſo backward as in many ſpecies, and hence the bird can walk on land better than moſt.

It is a native of the South American iſlands, and lives on the large freſh water lakes there. It frequently leaves the water, and enjoys the ſerene air on ſhore. The writers on the Braſilian animals have deſcribed it; and we have lately had the ſtuffed ſkin ſent us over as a curioſity: the mixture of green with the black in it is very beautiful.

Anas capite et collo albis, corpore nigricante.
The white-headed Anas, with a black body.

The Ipecati Apoa.

This is another of the Braſilian ducks, and is a very ſingular, as well as beautiful, bird; it is ſomewhat ſmaller than our common gooſe, but conſiderably larger than the duck: the head is large and rounded; the eyes are bright and piercing, but not large; their iris is of a pale hazel, with an admixture of yellow: the beak is large, and of a ſingular ſtructure; it is thick at the baſe, flatted all the way of it's length, and rounded, but withal ſomewhat bent at the end, the unguis, which terminates it, evidently turning down.

The head is of a ſnow-white, but variegated, in an elegant manner, with a few black feathers: the baſe of the beak is ornamented with a fleſhy protuberance, but this is not red as in the former ſpecies, but black, ſpotted with white: the neck is of the ſame elegant white with the head, and is in the ſame manner variegated with a ſmall number of black feathers: the breaſt and belly are white; the back and wings are of a deep black, but with an admixture of a deep gloſſy green: the tail is ſhort; the legs are long and robuſt, and are of a greyiſh colour.

This

This is a native of the Braſils, and of ſome parts of the continent of South America. It has been deſcribed by Marcgrave and Piſo, under the name of Anas ſylveſtris Braſilienſibus Ipecati Apoa dicta Pota, id eſt, Anſer Luſitanis. We have ſometimes had the ſtuffed ſkin ſent us over as a curioſity, very well preſerved.

Anas niveus roſtro partim flavo, partim miniaceo.
The ſnow-white Anas, with a red and yellow beak.

The Ipeca Guacu.

This, though of one ſimple colour, is an extreamly beautiful bird: the head is large, in proportion to the body, and it is rounded; the eyes are moderately large, and their iris is of a bright orange colour: the beak is long and large, and is remarkably beautiful: the baſis of it is of a fine bright ſcarlet, which colour is continued all over a naked fleſhy ſubſtance, that covers the anterior part of the head: the other part of the beak is of a fine gold yellow; it is very broad, and ſerrated all the way at the edges, and rounded at the extremity. The bird is of the bigneſs of our common duck, or a little larger; it's colour is throughout a fine and elegant white, like that of the ſwan, when in it's utmoſt beauty and perfection: the legs are ſhort, but robuſt, and of an orange colour; the feet broad and webbed.

It is a native of the Braſils. Piſo has deſcribed it under the name of Ipeca Guacu Braſilienſium; and moſt of the writers on birds, ſince his time, have communicated it under the ſame name.

Anas griſeo-rufeſcens macula utrinque ad roſtrum rubra.
The reddiſh-grey Anas, with a red ſpot on each ſide the head.

The Mareca.

This is of the ſize of our common duck, and is a very elegant bird: the head is large, and is flatted on the crown; the eyes are moderately large, and their iris is of a bright hazel, with an admixture of yellow: the beak is large and broad, but not very thick; it is obtuſe, and rounded at the extremity, and is ſerrated all the way about the edges: the noſtrils are round and patulous; the whole beak is of a deep brown colour, but it is ſomewhat paler in the middle than at the ſides.

The upper part of the head is of a duſky greyiſh-brown colour, but at the ſides, under the eyes, it is of a ſnow-white; and juſt at the origin of the beak, on each ſide, it has a bright red ſpot: the back is of a very beautiful colour, a mixed greyiſh-red: the grey is the principal ground colour, but the reddiſh tinge is diffuſed univerſally through it, and in many lights appears the principal colour: the breaſt and belly are throughout of a duſky brown, with a tinge of yellowiſh.

The wings are extreamly beautiful; their ground colour is the ſame reddiſh-grey with that of the back, but they are variegated in an elegant manner along one ſide, of almoſt all the long feathers, with a bright and pale brown, and toward their middle they are tinged with a fine and elegant green: the tail is ſimply grey; the legs are ſhort and black, and the feet are very large, and deeply webbed: the fleſh is much eſteemed at table, where it is a native.

It is frequent about ſeveral parts of South America. All the writers who have treated of the animals of that part of the world, have mentioned it; and thoſe who have treated of the ſame ſubjects more generally, have continued their accounts. Ray, Willughby, and others have deſcribed this ſpecies, under the name of Anas ſylveſtris Braſilienſis Mareca dicta prima Marcgravii.

Anas fuſca gutture albicante, pedibus ſanguineis.
The brown Anas, with a white throat, and with red legs.

The red-legged Pareca.

This is alſo a very elegant bird, though it have leſs variegation in it's colouring than many of the others: the head is large, and flatted on the crown; the eyes are large and black; the beak is nearly as long, and full as broad, as in our duck, and is of a gloſſy black: the head is of a deep duſky brown, ſuch as our painters expreſs by the term umber colour; but on each ſide, near the eyes, there is a ſmall roundiſh ſpot, of a pale lemon colour: the hinder part of the neck is of the ſame duſky colour with the head, but the throat is all the way down of a ſnow-white: the back is of a very elegant brown, not ſo deep as that of the head, and with ſome tinge of the olive along with it: the breaſt and belly are of a pale grey, with a colour of gold yellow: the tail is black; the wings are of the ſame brown with the back, only there is a tinge of greeniſh viſible on every part of them: the tips of the feathers are many of them white, and in the middle of the wing there is a large ſpot of a bluiſh-green, very elegant: the legs are ſhort, and of a fine deep red; the feet are very broad and webbed; the hinder toe is ſhort and inconſiderable.

This is a native of South America. The authors who have written on the animals of the Braſils have all deſcribed it, and from them the reſt of the ornithologiſts. Ray and Willughby call it Anas ſylveſtris Braſilienſis dicta Mareca ſecunda Marcgravii. The fleſh is much eſteemed in that part of the world.

MERGUS.

THE beak of the Mergus of is a cylindric figure, and hooked at the extremity, and it's denticulations are of a ſubulated form.

Mergus criſta dependente, capite nigro-cæruleſcente collari albo.
The Mergus, with a hanging creſt, a bluiſh-black head, and a circle of white round the neck.

The Merganſer.

This is a moderately large and a very ſingular bird; it's weight, without the feathers, is about four pounds; it's body is of an oblong and ſlender form, and the back flat: the male and female are ſo very different, both in their form and colouring, that our common people call them by two diſtinct names, and many of the writers on birds have deſcribed them as diſtinct ſpecies.

In the male, which we call the Gooſeander, the head and the upper part of the neck are throughout of a dark green, with a ſhade of a deep violet blue, a very beautiful and a very gloſſy tint, but ſo deep, that in many lights it carries an appearance of black: the lower part of the neck is of a bright gloſſy white: the middle of the back, and the exterior of the feathers of the ſhoulders, are black; the others are white, but the lower or hinder part of the back is of a dark grey: the rump, and the ſide feathers near it, as alſo the feathers which cover the thighs, are variegated with tranſverſe lines of a deep grey, with ſome tinge of brown: the tail is compoſed of eighteen feathers, and is entirely grey.

The wings are large; the long feathers in them are twenty-ſix in number: the ten outer ones are black, the four next to theſe are black alſo, but their tips are white; the five which ſucceed theſe are, on the contrary, white, with the bottoms black; the others, or the ſix or ſeven next the body, are alſo white, but with the outer edges black: the covering feathers are very beautifully variegated with black and white.

The whole breaſt and belly are of a livid or duſky bluiſh colour, but it is darker toward the top of the breaſt, and it becomes whitiſh toward the lower part of the belly.

The beak is very remarkable, both in figure and in bigneſs; it is of the length of the middle finger, and is conſiderably thick and robuſt; but it is not flatted, as in the duck, but rounded on the upper part, and, though it runs ſtraight nearly to the point, it is there hooked and turned down: the under chap is black throughout; the upper one is alſo black along the middle, but it is reddiſh at the edges, and black as jet at the hooked extremity, and is all the way denticulated along both ſides; the denticulations are of a ſubulated form, and pointed inward: the inſide of the mouth is yellow, as is alſo the tongue.

The feathers of the head are long, eſpecially toward the hinder part, and they ſtand looſe, and form a kind of creſt, which hangs down over the upper part of the neck, though but a little way: the noſtrils are large, and the iris of the eye is of a blood-red.

The legs are long and robuſt, they are of a ſtrong red: the feet are webbed, and the hinder toe is increaſed in breadth by a membrane.

The female of this ſpecies, which our people call the Dundiver, or Sparlin-fowl, has the head ſmaller than the male, and the feathers do not ſtand ſo looſe on it: it is of a brown colour, and has ſome approach toward a creſt, but not ſo much as in the male: the upper part of the throat is whitiſh; the back is altogether grey: the breaſt and belly are of a bluiſh or livid colour, as in the male, but paler: the long feathers of the wings are variegated, nearly in the ſame manner as in the male; the beak alſo is entirely of the ſame colour, figure, and ſize: the wings are rather ſhorter than in the male; and the tail alſo is ſhorter, and of a ſomewhat paler colour.

The bird is frequent in many parts of Europe, and has been deſcribed by almoſt all the authors who have written on this ſubject. It frequents freſh waters, and feeds on fiſh: it does not often take flight, but, by the ſwift motion of it's wings on the ſurface of the water, makes way with great rapidity. Aldrovand, Willughby, and Ray call it Merganſer; Geſner, Mergus cirratus longiroſter; Scheffer, who deſcribes it in his hiſtory of Lapland, Knipa; and Bellonius, Harle.

Mergus criſta dependente, capite nigro, maculis ferrugineis.

The Mergus, with a hanging creſt, with a black head, ſpotted with brown.

The long-beaked Duck.

This is nearly of the ſize of the common duck, and is not unlike it in the form of it's body, but the beak is perfectly that of the Mergus-kind: the head is ſmall, but the feathers ſtand ſo looſely on it, that it appears conſiderably large: the eyes are ſmall but bright, and of a piercing aſpect; the beak is very long, narrow, convex on the upper part, and hooked at the extremity, and dentated all along the ſides: the head is of a deep gloſſy black, but ſpotted all over with a ferrugineous brown: the creſt is not long, but hangs from the hinder part of the head: the breaſt is of a bright grey, ſpotted all over with innumerable minute dots of black; the belly is white, and the ſides are undulated with white and black: the back is altogether black; the long feathers of the wings are alſo black, but the ſhorter or covering feathers are white, only that the lower ſeries, or thoſe which fall immediately over the long ones, have their extremities black; this diſpoſition of the white feathers forms together a ſingle, broad, white line on each wing: the tail is ſhort and brown; the legs are robuſt, but not long, and the feet are large and webbed.

The

The wings in this ſpecies are remarkably ſhort, ſo that it ſeldom riſes into the air, but it is continually ſkimming along the ſurface of the water, by their help, with great rapidity.

It is frequent in many parts of Europe, and almoſt all the writers on birds have deſcribed it. Geſner calls it Anas longiroſtra, the long-beaked Duck, a name which many others have copied; Aldrovand, Anas longiroſtra Geſneri; Willughby, Mergus cirratus fuſcus; others have called it Merganſer minor, and Mergus cirratus minor.

Mergus capite griſeo, criſta deſtituto.
The Mergus, with a grey head, without any creſt.

This is a very ſingular ſpecies, and is not only much ſmaller, but, in many other eſſential circumſtances, different from the others: the head is large, and flatted on the crown; but this is the leſs conſpicuous, as the feathers ſtand very looſe on it: the eyes are large, and very bright and piercing in their aſpect: the beak is not long, as in the others, but ſhort and ſmall; but it is of the ſame general figure as in thoſe, rounded or convex, and ſtraight all the way to the point, where it is hooked: the upper part of the head is black; the back of the neck alſo is black, and the whole back of the bird is alſo black, but of a leſs gloſſy and ſhining hue: the wings alſo are black, but have a broad, tranſverſe line of white on them, formed of the covering feathers, which are white, all the long ones being of a deep black. It is ſingular to this ſpecies, that it has no creſt on the head, nor indeed the leaſt approach toward any thing of that kind: the throat, or anterior part of the neck, as alſo the breaſt, are perfectly white; and the ſides of the rump are alſo white: the tail is ſhort and brown: the legs are ſhort, and of a duſky olive colour, with a very ſtrong tinge of the green, and the feet are webbed.

This is frequent about the ſea-coaſts, in almoſt all parts of Europe, and has been deſcribed by moſt of the writers on this ſubject. Ray and Willughby call it Mergus Melanoleucos roſtro acuto brevi.

The other known ſpecies of the Mergus are, 1. The larger, brown Mergus, with a ſpotted back and greeniſh legs. 2. The larger, deep-brown Mergus, with a longer creſt. 3. The leſſer, olive-coloured Mergus, with a very long beak. 4. The leſſer, dark-brown Mergus, variegated with black and white, and with a ſhorter beak.

PELICANUS.

THE beak of the Pelicanus is very long, and is crooked and unguiculated at the extremity: the ſides of it are not denticulated, and the anterior part of the head, toward the throat, is naked.

Pelicanus gula ſaccata.
The Pelicanus, with a bag at the throat. The Pelican.

This is a very large and an extreamly ſingular bird: the head is moderately large; the eyes are large, and their iris is of a duſky grey, with a ſlight tinge of yellow: the beak is enormouſly large and long, and is of a ſtrangely ſingular figure and ſtructure; it is near a foot in length, and toward the baſe is of the thickneſs of a man's wriſt: it is in this part of a duſky lead colour, but with a faint tinge of yellow, eſpecially toward the ſides, and it is alſo yellowiſh again at the tip: the upper chap is broad and depreſſed; the under chap is formed of two horny ribs, ſeparate at their baſe, and joined at their extremity, and connected by a thick membrane of a yellowiſh colour, which is continued not only all along the beak, but beyond it's baſe, down to the throat: there is a tubercle at the baſe of the beak, but it's extremity is pointed, and ſomewhat hooked: the noſtrils are ſmall, and of a roundiſh figure, and are ſituated near the baſe of the beak, juſt under the plumage which inveſts it.

The

The head is naked at the ſides, from the angle of the beak quite up to the eyes; the feathers on it's crown are long and narrow, and ſomewhat emulate a creſt; they are of a whitiſh-grey, and the whole bird is alſo of the ſame colour, except that there is ſome yellowiſhneſs about the neck, and that the ſcapi of the feathers on the back are black, and the tips of the long feathers of the wings are black.

The tail is about ſix inches long, and is compoſed of two and twenty feathers; theſe are nearly of an equal length, but the exterior ones, when cloſely examined, are found to be ſomewhat ſhorter than the middle ones: the wings are moderately long; the large feathers are twenty-eight in each.

The legs are ſhort, but very robuſt: the feet are very broad and webbed; the colour of the legs is a duſky bluiſh-grey, and they are naked to the middle joint. The bird is, upon the whole, one of the moſt ſingular in the world; it has, at firſt appearance, much of the general figure of the ſwan, but the addition of ſo enormous and ſtrange a beak, to a bird of that kind, is ſo perfectly out of the courſe of what might have been expected, that it ſtartles and ſurprizes every body.

The pelican is a native of ſome parts of Aſia, and, where it breeds, is uſually very plentiful: the food of it is fiſh and water inſects, and it frequents equally the ſea-ſhores, and all the larger freſh waters. All the writers on birds have mentioned it. Aldrovand calls it Onocrotalus ſive Pelicanus; and moſt of the others have taken one or both theſe names.

Pelicanus ſubtus albicans rectricibus quatuordecim. The Pelicanus, with a white breaſt, and with fourteen long feathers in the tail.

The Cormorant.

This alſo is a very large bird; it is equal to a well-fed gooſe in ſize, and is not without it's beauty: the head, neck, back, wings, and rump, are all of one uniform colour, which is a deep olive brown, with an additional tinge of a changeable green thrown over it, viſible, in a different degree, in different lights: the breaſt and belly are of an elegant white, and the contraſt of theſe ſo very different colours gives a very great beauty to the bird: the wings are long, and very well feathered; the long feathers are about thirty in each, and the tips of the greater part of theſe, as alſo of ſome of thoſe of the ſecond ſeries, are greyiſh: the tail is about ſeven inches long, and is compoſed of fourteen feathers; it is hollow within, and, when expanded, is of a rounded figure at the extremity.

The beak is about three inches long; it is robuſt and ſtraight to near the extremity, where it is hooked: the upper chap is altogether black, and is ſharp at the edges; the lower has the edges flatted: the tongue is very inconſiderable, and the opening of the mouth is enormouſly wide: the eyes are large, and ſtand at a very ſmall diſtance from the angle of the mouth; but, what is moſt of all remarkable in this bird, and at firſt ſight diſtinguiſhes it from all the others, to which it has any reſemblance it's in general figure, is, that it has a naked yellow ſkin, inveſting the baſe of the under chap of the beak. The legs are moderately long and naked; they are covered with a firm and hard ſkin, divided into a kind of cancellated ſcales: the feet are very large; the toes are four, they all ſtand forward, and are connected together by a large and firm web or membrane: the outer toe of each foot is the longeſt, the others are all gradually ſhorter, and the claw of the middle one is ſerrated on the inſide.

This is an extreamly voracious bird; it feeds on fiſh, and it's ſwallow is ſo extreamly large, that it takes ſuch as would ſurprize any one to conceive, and lets them down whole. It frequents the ſea, and ſometimes the large freſh waters. It breeds in ſome of the more northern parts of England about the ſea-coaſts, and that in a very different manner, for it ſometimes makes it's neſt in the cracks and caverns of the rocks, and ſometimes in the talleſt trees. This is the more ſingular, as it is a bird of the web-footed kind, not any other of that ſtructure of feet being ever known to perch upon trees. It is a native alſo of many other parts of Europe. All the writers on

birds

birds have deſcribed it. Geſner calls it Carbo aquaticus; Aldrovand, Ray, Willughby, and others, Corvus aquaticus; and others have taken one or other of theſe names.

Pelicanus ſubtus fuſcus, rectricibus duodecim.
The Pelicanus, brown underneath, with twelve feathers in the tail.

The Shag.

This is conſiderably like the former ſpecies in ſhape, but quite different in colour; it is of the ſize of a well-fed duck: the head is large, and flatted on the crown; the eyes are ſmall, and they are very remarkably ſituated; they ſtand more forward, and lower down on the head, than in any known bird: the beak is ſtraight, and not very robuſt; it is neither compreſſed on the top, nor flatted at the edges, but is of a rounded figure: the whole beak is about three inches and a quarter long; the upper chap is ſomewhat longer than the under, and turns over it in a little hook at the end, otherwiſe the whole beak is ſtraight: the upper chap is black; the under one is of an olive colour with a tinge of yellow: the opening of the mouth is enormouſly wide: the tongue is very ſmall and inconſiderable: the noſtrils are alſo very ſmall, and ſcarce conſpicuous: ſeveral authors have indeed ſaid it has none.

The body is of a broad and depreſſed figure; the back flatted, and the ſhoulders very little raiſed: the colour of the whole upper part of the bird is a deep and elegant black, with a tinge of glowing purple thrown over it, and of green in ſome lights; and the whole has a gloſs and brightneſs on it, that is ſcarce to be conceived, otherwiſe than by ſeeing it: the breaſt is brown, and ſo is the greater portion of the under part of the body; but the middle of the belly is ſomewhat greyiſh, and, toward the tail, it is black. And the throat has ſome whiteneſs in it.

The tail is ſix inches in length, and is compoſed of twelve large and rigid feathers; the middle ones are the longeſt of theſe, but the exterior ones are very inconſiderable, ſo that, when expanded, it appears of a kind of hyperbolic figure: the wings are not very long; when cloſed, they reach no farther at the tips than to the baſe of the tail: the long feathers in each are thirty.

The legs are ſhort and robuſt; they are not rounded, but compreſſed, or of a flatted figure, and are feathered below the joint; they are covered with a firm and tough ſkin, not divided into ſcales, but cancellated: the feet are very large and webbed: the toes are four; the outer one of each foot is longeſt, the others gradually ſhorter: the legs are black, as is alſo the ſole of the foot; but the membrane which connects the toes is brown: the claw of the middle toe is ſerrated or pectinated.

This is a native of the coaſts of England; it is a ſea-bird, and is uſually ſeen ſwimming with it's head erect, and it's body almoſt entirely under water. It is very ſhy, and very difficult to be ſhot; it dives to admiration, and never fails to get far off, at the ſight of a gun. It builds with us, and uſually does it in trees, not among the rocks; the eggs are oblong, and totally white. Moſt of the writers on birds have mentioned this ſpecies. Aldrovand calls it Graculus palmipes Ariſtotelis, ſive Corvus aquaticus minor. Ray and Willughby, Corvus aquaticus minor, ſive Graculus palmipes.

ALCA.

THE beak of the Alca is of a convex and compreſſed figure, and is incurvated and furrowed, or ſulcated in a tranſverſe direction: the feet ſtand very backward, and have each three toes.

Alca roſtri ſulcis quatuor, oculorum regione temporibuſque albis.

The Alca, with four furrows on the beak, and with the ſides of the head white.

The Pope.

This is a very ſingular bird; it is about the ſize of our widgeon, or ſomewhat larger, but is not quite ſo large as the duck: the head is large and rounded; the eyes are ſmall, and ſtand forward on the head, and lower down than in the generality of birds: the beak is ſhort and broad, but it is flatted in a different direction to that of the beaks of the duck-kind, being compreſſed from ſide to ſide, and not depreſſed from top to bottom. It is large on the baſe, and pointed at the extremity, and on the whole approaches ſomewhat to a triangular figure: the upper chap is a little longer than the under, and ſomewhat arcuated or hooked at the extremity: it's baſe is ſurrounded with a naked, callous matter, in the ſame manner as the beak of the parrot-kind; juſt under this callous ſubſtance ſtand the noſtrils; they are very long and narrow, and of a darker colour than the reſt: the beak itſelf is of two colours; of a grey or bluiſh-livid hue toward the baſe, and of a bright red at the extremity: there are four very remarkable furrows in it; they run in a tranſverſe direction, and are conſiderably deep, but the extream one is fainter than the reſt; ſo much ſo indeed, that many of the authors who have deſcribed the bird, have called them only three: the mouth is yellow within: the eyes are large; their iris is grey, and the eye-lids are armed with a thick black cartilage, and in the under one there is a ſmall, livid, roundiſh protuberance, and on the upper a triangular excreſcence of the ſame fleſhy matter.

The legs are, while the bird is young, of a bright yellow, but, when it is full-grown, they are red; they are ſhort, but robuſt, and ſtand ſo extreamly backward, that, when the bird ſtands upon them, it ſeems to raiſe itſelf erect on the tail: the feet are moderately large; the toes are three, all placed forward, and connected by a firm membrane: the middle toe of each foot is longeſt, and the inner one much ſhorter than the outer: the claws are of a bluiſh-black.

The head, neck, back, and upper ſurface of the wings, are all black: the whole breaſt and belly are white; there is a collar of black drawn acroſs the throat: the jaws, the upper part of the throat to this collar, and the ſides of the head, are of an elegant ſnow-white, or in others of a very bright ſilvery grey; the eyes are, as it were, ſurrounded by a circle of this colour.

The wings are very ſhort, and compoſed but of few feathers; they were not intended by nature for long or high flights, but they ſerve the bird for ſkimming along the ſurface of the water at a prodigious rate: the tail is very ſhort, ſcarce an inch and a half long; it is compoſed of twelve feathers, and is totally black.

This ſpecies breeds with us, and is very common about many of our coaſts, eſpecially the more northern. It is not at the trouble of making any neſt, but lays it's eggs in any little hollow on the ground; and, what is very ſingular, each lays only one egg, but this is very large, in proportion to the ſize of the bird. If this egg be taken away, the bird will lay another in the place of it, and ſo on to the fifth; but, if undiſturbed ſhe lays only one, nor will ſhe ever ſit on more than a ſingle one. The egg is equal to the largeſt hen's egg, or larger, and is of a duſky yellowiſh-brown colour all over; it is large at one end, and very ſmall and pointed at the other. We have them in vaſt plenty about the coaſts of the Iſle of Angleſea, Caldey Iſland, the Iſle of Man, and other places, where they come on ſhore in prodigious numbers to breed; but they are birds of paſſage, for they leave us at the approach of winter, and do not return till ſpring. A few of them are uſually ſeen at the end of March, or in the beginning of April, which ſeem as if ſent to reconnoitre, for they go off again, after a few days, and in three weeks, or a little more, return with the whole body. If the ſeaſon be favourable, and the weather mild, they come in ſurpriſing numbers,

and

and in good condition; but, if it be ſtormy, they are thrown up dead by thouſands at a time on the ſhore, ſtarved and mere ſkeletons. It is along way that they travel; and they can only come on the ſurface of the water, and muſt feed all the way, which is not to be done in tempeſtuous weather. In Auguſt, or in the beginning of September, they go away in a body. Our fiſhermen tell us, that they ſometimes find a few of them in a torpid ſtate, in the cracks of rocks in winter; but the ſtay of theſe is accidental, and probably they all periſh.

All the writers on natural hiſtory have named this ſingular bird, but they have diſtinguiſhed it by ſo many different appellations, ſome of them common alſo to other ſpecies, that their accounts have great confuſion. Geſner calls it Puphinus Anglus; Aldrovand, Fratercula marina ſive Pica marina; Martin, Avis glacialis; Cluſius, in his Exotics, Anas arctica; and Ray, Willughby, and many others have borrowed this laſt name; Wormius calls it Anas arctica Cluſii, and Bartholine, Lunda avis.

Alca roſtri ſulcis octo, macula alba ante oculum.
The Alca, with eight furrows on the beak, and a white ſpot before the eye.

The Penguin.

This is a very large and ſingular bird; it is equal to the common gooſe in ſize, but in all reſpects reſembles the ſpecies of Alca already deſcribed, except in the ſpecific diſtinctions: the head is large, and flatted on the crown; the eyes are moderately large, and their iris is grey, with a tinge of yellow: the beak is of a kind of triangular figure, compreſſed at the ſides, and a little hooked juſt at the extremity; it is between three and four inches in height, and has eight of the furrows which diſtinguiſh the birds of this genus on it, but they are not exactly tranſverſe, but oblique; theſe are toward the extremity of the upper chap, and the eighth is ſo faint, that it is eaſy to overlook it: the lower chap has no leſs than ten ſuch furrows, but they are fainter: the whole beak is black, and the opening of the mouth is enormouſly wide; there is a protuberance alſo at the angle of the lower chap.

The head is black, only that there runs a white line on each ſide, from the beak to the eyes: the back and wings, and indeed the whole upper part of the body are black, and the breaſt and belly, or whole under part are white: the wings are very ſhort, and the tail alſo is ſhort: the feet ſtand very backward: the legs are ſhort and black, and the toes connected by a membrane.

This is a native of moſt of the northern parts of Europe, and has been deſcribed by all the writers on birds. Willughby calls it Penguin nautis noſtratibus dicta quæ Grofugel Hoieri eſſe videtur; Bartholine calls it Avis Garfahl; Cluſius, Anſer Magellanicus; Wormius, Anſer Magellanicus Penguin; and Ray, ſimply, Penguin. It feeds on ſea-fiſh, and on many of the inſects and ſmall animals that frequent the ſhores.

Alca roſtri ſulcis quatuor, linea utrinque alba a roſtro ad oculos.
The Alca, with four furrows on the beak, and with a white line on each ſide the head.

The Razor-bill.

This is a much ſmaller ſpecies than any of the former. It is not equal to the common duck in ſize: the head is large, in proportion to the body, and is rounded at the ſides, but a little flatted on the crown; the eyes are moderately large, and their aſpect is very bright and piercing; the beak is of the nature of that of the others of this genus, but it is ſtill more ſingular than in any of them: it is about an inch and a quarter in length; it is throughout of a black colour, and is narrow and compreſſed at the ſides: a little above the noſtrils there runs a very deep furrow, and the beak is, from it's baſe to this mark, covered with a fine downy and ſoft plumage; there are three

three other furrows running tranſverſely, or a little obliquely, at ſome diſtance below this; but they are leſs conſiderable, eſpecially the laſt of them, which, in ſome ſpecimens I have ſeen of this bird, has been almoſt obliterated, ſo that a man might have eaſily miſtaken the number of furrows on the beak for only three: the upper chap of the beak is ſomewhat longer and larger than the other, and is crooked and hollow at the extremity, and receives the under chap into it.

The head, as alſo the neck, ſhoulders, back wings, and indeed every other part of the upper ſurface of the bird, is black: the belly, the breaſt, and half way up the throat, are of a fine ſnow-white, but the upper part of the throat is reddiſh; there are two very remarkable white lines on the head; they run on each ſide, one from the angle of the beak to the eyes: the mouth is of a beautiful bright yellow within, and the iris of the eyes is of a pale hazel colour.

The wings are ſhort, and are rather formed for aſſiſting it's motions along the ſurface of the water, than for high flights: the tail alſo is ſhort; the legs are ſhort, and very robuſt; the feet are webbed, and they have no hinder toe: the legs ſtand ſo extreamly backward in this ſpecies, that the bird walks but very awkwardly, and, when doing ſo, ſeems to ſtand erect upon it's tail. Nature has calculated all the parts of animals for the purpoſes they are to ſerve, and the buſineſs of theſe is to aſſiſt the animal in ſwimming, not walking.

This is a native of our own coaſts; it builds in the crevices of rocks, and on cliffs. It makes no neſt, but lays a ſingle egg on the bare rock, and there ſits on it. It has been deſcribed by all the authors who have written on theſe ſubjects. Willughby and Wormius call it, ſimply, Alca; Ray, Alca Hoieri. Our people, in different parts of the kingdom, have three ſeparate names for it. Thoſe about the weſtern coaſt call it the Razor-bill; in the northern it is called the Awk, and in Cornwall, and ſome few other particular places, the Murrel. The eggs are eſteemed a delicacy; they are very large, and though the creature lays but one egg, they are to be had in great abundance, for multitudes uſually breed together.

COLYMBUS.

THE beak of the Colymbus is of a ſubulated figure, and ſomewhat compreſſed; it is more than equal in length to the head of the bird, and it has no denticulations at it's edges: the legs are placed very backward, ſo that the bird walks awkwardly.

Colymbus pedibus palmatis indiviſis.
The Colymbus, with palmated, undivided feet.

The Lumme.

This is a very beautiful bird, and is extreamly common in ſome particular parts of the North of Europe, though wholly unknown elſewhere; the bird is about equal to our common wild-duck in ſize: the head is large, in proportion to the body, and is rounded at the ſides, but ſomewhat depreſſed on the crown: the eyes are large, ſharp, and piercing, and their iris is of a fine pale hazel: the beak is about an inch and three quarters in length, and toward the baſe it is moderately thick; it is from thence all the way ſmaller to the very extremity, where it is ſharp, and is all the way compreſſed or flatted at the ſides; it is all over of a deep gloſſy black: the head and neck are grey, and have the appearance of being covered with a friar's hood, or ſome ornament of that kind: the back and wings are black, but they are beautifully variegated with large and ſquare ſpots of white; theſe are ſmaller on the wings than on the back: under the neck there is a large black ſpot, of an oblong, quadrated figure; this has the appearance of a ſhield, and is four inches in length, and two in breadth: the ſides of it are variegated with grey and white feathers, in manner of a zone; the breaſt and belly are white.

The

The legs are ſhort, but robuſt; they are of a deep blackiſh colour, and ſtand ſo very backward, that it is plain they were intended for ſwimming, not for walking.

This is very frequent about Norway and Sweden, and ſome places much farther North. It dives to a wonderful degree, keeping under water ſo long, and making ſo conſiderable a progreſs under it, as ſurprizes every body that ſees it. It lays but one egg, but that very large. The eggs and the bird itſelf are eaten, and extreamly valued in many places. The ſkin alſo, when the feathers are taken off, is dried, and uſed in many places as ſwan-ſkin, by way of warmth, but is ſaid to excel it. Moſt of the writers on theſe ſubjects have deſcribed it. Cluſius calls it Mergus maximus Farrenſis ſive arcticus. Wormius, Colymbus arcticus Lumme dictus; Willughby and Ray, Colymbus arcticus; and Bartholin, ſimply, Anas aquatica.

Colymbus pedibus lobato-diviſis, capite nigro.
The Colymbus, with the toes lobated and divided, and with a black head.

The great Didapper.

This is a very pretty bird; it's ſize is about that of the widgeon: the head is large, and ſomewhat depreſſed on the crown; the eyes are large and bright; their iris is of a deep duſky hazel, and the pupil of a greeniſh-black: the beak is an inch and a quarter in length, black all over, and large at the baſe, but ſharp at the point, and compreſſed all the way: the feathers on the top of the head, and thoſe on the upper part of the neck alſo, are elevated in ſuch a manner, that the bird has not only a creſt, but a kind of horns alſo, though they are ſhort.

The upper part of the head is of a deep black; the ſides are of a reddiſh-brown: the upper part of the throat is white, and there is alſo a white ſpace on each ſide of the head, about the eyes; and this white on each part has ſomewhat of the reddiſh-brown adjoining to it: the neck is moderately long, and is partly black, and partly of this reddiſh-brown: the breaſt and belly are of a white colour, with an admixture of the reddiſh-brown, but it is faint, and leſs conſiderable.

The back and the upper ſurface of the wings are in general black, but there are ſome feathers of a reddiſh-brown, intermixed with the black ones: the wings are ſhort, but they are not ſo extreamly ſhort as in ſome of the former ſpecies, in which they ſeem ſcarce deſigned for any thing more than ſkimming along the water: this ſpecies, on the contrary, flies very well; the long feathers are all of a duſky whitiſh colour, and ſo is the upper verge of the wing; the edges downward are of a ruſty brown, but ſo deep, that it approaches to black.

The legs are ſhort, but they are very robuſt; they are ſomewhat flatted in figure; the feet are large; the toes on each of them edged with a membrane on both ſides, but they are not webbed; the membranes not conjoining into one, but leaving the toes a liberty of ſeparating from one another to any diſtance.

This is a native of England, and of moſt other parts of the North of Europe, but it is not ſo common as many of the other ſpecies. It builds with us among ſedge and reeds, and lays four or five moderately large eggs. Moſt of the writers on birds have deſcribed it. Geſner calls it Colymbus major; Aldrovand, Colymbus major criſtatus; Willughby and Ray, Colymbus major criſtatus et cornutus. We call it the horned Didapper.

Colymbus pedibus lobato-diviſis, capite rufo.
The Colymbus, with the feet lobated and divided, and with a reddiſh-brown head.

The Dobchick.

This is a very ſingular and a very pretty bird; it is ſmaller than the common teal, and, as it is ſeen ſwimming on the waters, appears like the young of ſome of the duck-

kind, not yet fledged or feathered: the head is ſmall, and is ſomewhat depreſſed on the crown: the eyes are large, and very piercing in their aſpect; the beak is about half an inch in length; it is largeſt at the baſe, and from thence all the way ſmaller to the extremity, where it is pointed, and it is flatted all along at the ſides: the upper chap is black, but the tips and the ſides of it are, for a little breadth, of a pale or whitiſh yellow: the whole under chap alſo is of this pale or whitiſh yellow: the noſtrils are conſpicuous, and ſtand at a little diſtance below the plumage that inveſts the baſe of the beak: the tongue is long, and bifid at the end; and the iris of the eye is hazel.

The plumage of this bird is very thick and ſoft, and at any diſtance it has more the appearance of a downy or woolly matter, than of feathers: the back, ſhoulders, and upper part of the wings are of an extreamly deep olive colour, approaching to black, and in many lights appearing quite black: the belly and breaſt are of an elegant ſilvery white; the very loweſt part of the belly is brown, and there is ſome reddiſh-brown along the ſides of the throat: the feathers which cover the thighs have alſo a little brown on them: the neck is long, in proportion to the ſize of the bird.

The wings are extreamly ſhort and hollowed: the large feathers are twenty-ſix in each, and are ſome of them altogether brown, and others variegated with brown and white. This bird is ſingular, in that it has abſolutely no tail: the glands found in the rumps of other fowls, however, are not wanting in this in their due place, and there ariſes a tuft of feathers from them, as in the other birds.

The legs are very ſhort, and ſtand ſo extreamly backward, that, though very uſeful to the bird in ſwimming, it can hardly walk at all; when on land, it ſeems to ſtand erect upon the rump: they are robuſt, of a greeniſh-black colour, and of a flatted form, and naturally bend backwards: the toes are long, and are armed at their extremities with broad and ſhort claws, much reſembling the nails of a human hand: each toe is alſo increaſed in breadth, by a membrane on each ſide; but the feet are not webbed, or the membrane not connected.

This is very frequent about our rivers and ponds, and is the moſt nimble diver of all the water fowls. All the writers on birds have deſcribed it. Geſner calls it Trapazorola ſive Merguſus; Aldrovand, Colymbus minor; Willughby and Ray, Colymbus ſive Podiceps minor. It builds with us among ſedge and ruſhes, and lays four or five moderately large eggs. We call it by ſeveral names, expreſſive of it's diving; the Didapper, the Dipper, the Dobchick, the Douker, and the leſſer Loon; ſome, from the ſituation of it's legs, the Arſe-foot.

Colymbus pedibus tridactylis palmatis.
The Colymbus, with webbed feet, and three toes to each.

The Sea-turtle.

This is of the bigneſs of a large tame pigeon, and is ſuppoſed, though not very judiciouſly, to reſemble it in ſome degree in figure: the head is large, compreſſed at the ſides, and a little flatted on the crown: the eyes are large, and their iris of a bright hazel: the beak is about three quarters of an inch long, and is ſhaped ſomewhat like that of the common hen, but broader at the baſe, and more compreſſed at the ſides; it is ſharp at the point, and all over of a deep black colour: the head and neck, as alſo the ſhoulders and back, and the generality of the upper ſurface of the wings alſo, is black; the breaſt, belly, and throat are white.

The wings are ſhort, but they are very well feathered; the remiges or long feathers are all of them black, but the covering or ſhorter feathers are white, and thence there appears a large white ſpot on each of the wings: the breaſt and belly of the male, in this ſpecies, are of a deep colour, approaching to the black of the back, ſo that, in that ſex, the whole bird is black, excepting for the white ſpot on each of the wings.

The legs are moderately long, and ſomewhat robuſt; they are of a bright and elegant red colour, and the toes are moderately long; they are only three on each foot, and

and all before, there being no mark of a hinder toe at all: they are not connected by a ſingle membrane, in the manner of the web-footed fowls; but the toes have each a ſeparate membrane on each ſide, increaſing their breadth.

We have not this ſpecies native in England, but it is very common in many other parts of the North of Europe, and moſt of the writers on birds have deſcribed it. Martin calls it, ſimply, Columba; Willughby and Ray, Columba Groenlandica; Rudbeck, Colymbus minor; and we, the Greenland Dove, or the Sea-turtle. It builds among the rocky cliffs in Norway, Denmark, and Sweden, and lays only two eggs, which are large, and much ſought after by the people on the ſea-coaſts as food.

L A R U S.

THE beak of the Larus is ſtraight all the way, except juſt at the point, where it turns down: and it is obtuſe, and not denticulated along the ſides; and it's lower chap is gibbous or protuberant.

Larus albus dorſo cano.
The white Larus, with a hoary back. **The White Gull.**

This is a pretty bird, though it have very little variegation in the colouring: the whole bird is of a clear and bright white, except that the back and the upper parts of the wings are grey, or of a hoary colour, and the long feathers of the wings are alſo grey, and that ſomewhat deeper than the others: the three or four firſt of them have alſo a black ſpot at their extremity, and a white dot within this; and all the others are white on their outer edge: the tail is moderately long, and undivided at the end, and it is throughout of a white colour, equal in brightneſs to that of any other part of the bird.

The legs are ſhort, and of a bright yellow; the feet are large, broad, and webbed, and the hinder toe is very ſhort and inconſiderable: the thighs are feathered at the top, but they are at leaſt half the way naked: the eyes are large, and their iris is grey: the region of the eye-lids is naked, and their edge of a ſcarlet colour.

The upper chap of the beak ſomewhat reſembles that of the raven; it is convex and cultrated, and arched, and the lower chap is gibbous: the corners of the mouth are naked, and of a bright ſcarlet colour; the tongue is ſagittated, and bifid at the extremity: the beak is itſelf yellow, and the palate of the mouth is denticulated.

The ſize of the bird is that of a well-grown pullet; the female is ſomewhat ſmaller than the male. It lives on ſalt-water about the ſea-ſhores, and in the ponds and ditches in the ſalt marſhes. The coaſts of Scarborough afford a great number of them at ſome times, but at others there is hardly ſuch a bird to be ſeen: they ſometimes build with us, and lay three large eggs. Many of the authors who have written on birds have deſcribed it, though ſome have omitted it. They call it, in general, Larus albus; our people, the white Gull.

Larus albus dorſo cinereo-fuſco.
The white Larus, with a greyiſh-brown back. **The great grey Gull.**

This is a ſomewhat larger bird than the preceding, but it is not ſo handſome: the head is large, and flatted on the crown, and the eyes large and grey: the upper chap of the beak is black, and the under one yellowiſh, but there is nothing of that ſcarlet colour in this, which is ſo conſpicuous at the angles of the mouth; nor are the verges of the eye-lids ſcarlet, as they are in that ſpecies.

The ſize of the bird is that of a large hen: the head is white, but it is not ſo bright and clear a white as in the preceding ſpecies: the neck is whitiſh; the breaſt and

and belly are grey, and the throat has alſo ſome greyiſhneſs, but leſs than the others in it: the back is of a ſomewhat duſky browniſh-grey, and the upper part of it is darker than the reſt; the feathers of the wings are irregularly coloured with black, grey, and white; ſome of the feathers are wholly black, except their tips, which are white, and in others the colours are laid on more and more irregularly: the tail is moderately long, and the feathers which compoſe it are white, irregularly clouded with grey, brown, and black: the tips of many of them are black, and the upper edges of almoſt all are of a pure white. It is ſingular, that the birds of the firſt year's growth, in this ſpecies, are extreamly different from thoſe of a more advanced age; indeed, the variegation is ſo great, that it would be ſcarce poſſible for a perſon, not informed of it, to know them for the ſame: they are all over of the colour of the wood-cock, or variegated with clouded ſpots of grey, white, and brown.

The legs are ſhort, and not yellow, as in the preceding ſpecies, but of a duſky grey, with a tinge of bluiſh and olive.

This ſpecies is very frequent about our coaſts, and breeds with us. The eggs are large, and there are uſually about four in the neſt. All the writers on birds have deſcribed it. Ray calls it Larus cinereus maximus; and moſt of the others, Larus cinereus and Larus major. As is is often ſeen ſwimming and feeding promiſcuouſly with the former ſpecies, the people about our ſea-coaſts have an opinion of their being the male and female of the ſame kind, but this is erroneous.

Larus dorſo cinereo, collo maculato.
The Larus, with a grey back, and a ſpotted neck.

The leſſer Gull, or Sea-mall.

This is of about the ſize of a common tame pigeon: the head is ſmall, and depreſſed on the crown; the eyes are large, and their iris is of a pale hazel: the beak is conſiderably large; the upper chap is narrow, but arcuated and acute, and the eminence on the under chap, which is the diſtinguiſhing characteriſtic of the genus, is ſo ſmall in this ſpecies, that it is ſcarce diſtinguiſhable, unleſs when nearly examined: the whole beak is of a whitiſh colour, except at the tip, where it is yellowiſh.

The head and the upper part of the neck are white, ſpotted with moderately large and irregular ſpots of brown, but the lower part of the neck, down quite to the bottom, is ſimply of a pure white: the back is of a duſky grey, down quite to the origin of the tail, but the feathers which cover the baſe of that are white: the throat, the breaſt, and belly are all over of the moſt pure and bright white: the tail is alſo of a pure ſnow-white; and the covering feathers of the under part of the wing are white, but thoſe of the upper part are grey.

The wings are large, and extend to a great meaſure from tip to tip: the long feathers of them are variegated with black, white, and grey; the feathers which cover the upper part of the thighs are variegated with grey and white: the legs are moderately long, and of a pale greeniſh-grey colour: the toes are long; the middle one has the claw acute, or ſharpened on the exterior ſide; the hinder toe is very ſmall.

This is frequent about our coaſts, and moſt of the writers on birds have deſcribed it. They have called it Larus cinereus vulgaris and Larus cinereus minor; the latter is the name given it by Willughby and others, the former by Aldrovand.

Larus corpore toto cinereo-fuſco.
The browniſh-grey Larus.

The deep, grey, Sea-mall.

This is of the ſize of a moderately grown pullet: the head is ſmall, and flatted on the crown; the eyes are large, and very bright, and have a mixture of a pale hazel and a gold yellow in the iris: the beak is large, and very much arcuated, for one of this ſpecies: the upper chap is turned down for ſome length at the end, and the eminence

eminence on the under chap is conſpicuous, though not ſo large as in ſome of the ſpecies: the upper part of the head is of a ſhining blackiſh-green, ſomewhat like that of the drake, but not quite ſo elegantly changeable; the ſides are paler: the neck, ſhoulders, back, and upper part of the wings, are of a deep iron grey, with a ſtrong admixture of brown: the breaſt, belly, and throat are of a paler grey, and with leſs of the brown, but ſtill with ſome tinge of it.

The wings are very long. When cloſed, they reach beyond the extremity of the tail, and, when expanded, they reach to a great extent: their long feathers are elegantly variegated with grey, black, white, and brown: the tail is moderately long, and is of a pale grey, with ſome variegations of brown and of black, but with very little of the brown intermixed among the grey: the legs are moderately long, and of a pale fleſhy colour, as is alſo the beak: the hinder toe is very ſhort and inconſiderable.

This is frequent in our ſea-maſhes about Graveſend, and elſewhere; yet moſt of the writers on birds have, by ſome ſtrange error, overlooked it. Baltner calls it Larus major cinereus; and our Willughby deſcribes it, from his figure, under the ſame name; yet he is ſo uncertain about it, that he has a ſuſpicion of it's being the ſame with our common Lapwing, a ſufficient proof of his not having met with it.

Larus capite albo, nigra utrinque macula.
The Larus, with a white head, with a ſpot of black on each ſide.

The Torrock.

This is a very ſingular and a very pretty ſpecies; it is of the ſize of the common jack-daw: it's head is ſmall, and of an elegant ſnow-white, but on each ſide there is a large and round ſpot of black: the neck alſo is of a pure ſnow-white, and has not the leaſt ſpot on it: the bottom of the neck, where it joins the back, is of a deep black, and this colouring is ſo diſpoſed, that it forms a kind of ring round the inſertion of the neck, and with the contraſt of the white of the neck is very beautiful: the back is of a duſky greyiſh colour; the breaſt and belly are of a ſnow-white: the tail is moderately long and white, only that moſt of the feathers are tipped with black: the wings are long, and their principal feathers are variegated, in an elegant manner, with black, white, and grey: the covering feathers are all of a greyiſh colour.

The beak is about three quarters of an inch long, and all over of a deep black: the upper chap is nearly ſtraight, but hooked down at the end; and the prominence on the lower chap, which characteriſes this genus, is very conſiderable and conſpicuous.

The legs are moderately long and red; the toes are long, and the claws black; the hinder toe is very ſhort, and indeed imperfect; it rather is a protuberance of fleſhy matter than a toe, there being no claw upon it.

It is a native of our coaſts, and breeds with us in the Weſt of England in great plenty. Ray, Willughby, and others call it Larus cinereus Bellonii, that author having firſt mentioned it. Our common people in Cornwall call it the Torrock. It builds on the ground, and lays from three to five eggs, which are large, in proportion to the ſize of the bird, and are accounted a delicacy at table.

Larus cinereus capite nigricante.
The grey Larus, with a black head.

The Peewit, or Black-Cap.

This is a very elegant ſpecies; it's ſize is about that of the common tame pigeon: the head is ſmall, and the eyes are bright; they are large: their iris is of a pale hazel colour; the verges of the eye-lids are red, and they are ſurrounded with a fine white plumage: the beak is nearly an inch in length; it is of a fine bright ſcarlet, and is a little bent downwards.

The head is black, and the anterior part of the neck or throat is alſo black half way down: the middle of the back is grey; the neck, the breaſt, and the belly are white: the wings are conſiderably long; their covering feathers are grey, but the long feathers, which are twenty-nine in each wing, are variegated with black and white: the tail is moderately long, and is even at the end, not forked, and is throughout of a pure white: the legs are ſlender and delicate; they are not very long, and their colour is a blood-red: the claws are black; the toe behind is very ſhort and inconſiderable.

This beautiful bird is very frequent about our ſea-coaſts, and in ſome places at a diſtance from the ſea; it builds on the ground in any accidental hollows. All the writers on birds have deſcribed it. Aldrovand mentions it twice; once under the name of Larus cinereus Ornithologi, and another time under that of Larus cinereus tertius. Willughby and Ray continue theſe names, and call it alſo Cepphus Turneri et Geſneri.

Larus dorſo ferrugineo, pectore pallide fuſco. The Gannet.
The Larus, with a ferrugineous back, and a pale brown belly.

This is an extreamly ſingular ſpecies; it's whole aſpect, in ſome degree, approaching to that of ſome of the land birds of prey, as well as it's colour; it is equal to the common duck in ſize: the head is large, and flatted on the crown; the eyes are very bold and piercing in their aſpect, and their iris is of a hazel colour: the beak is very large and ſtrong; it is ſhorter than in the other ſpecies, but is turned down at the end, juſt like the beaks of the hawk-kind, and in the ſame manner has a yellow membrane inveſting it, quite down to the noſtrils: the legs alſo approach to thoſe of the hawk-kind; they are robuſt and ſhort, and the claws are long, ſtrong, and hooked, and ſharp, quite in the manner of thoſe birds of prey, and wholly unlike thoſe of all the web-footed birds.

The whole upper part of the bird is of a deep, ruſty, ferrugineous colour, much like that of the common buzzard: the breaſt and belly are alſo brown, but paler: the wings are very large, and their principal feathers are black; the tail alſo is moderately long and black: the upper part of ſome of the larger feathers of the wings is white, but there is nothing of this in the tail, for that is altogether black.

This ſingular bird, which, if it were not for the protuberance on the under part of the beak, one could ſcarce ſuppoſe of this genus, is frequent about the coaſts of the weſtern parts of England. Willughby, Ray, and ſome others have called it Cataractes noſter. Many of the foreign writers on birds have omitted the mention of it. Our common people in Cornwal call it the Gannet. It follows the ſhoals of pilchards and ſome other fiſh, flying at a diſtance over them, and at times precipitating itſelf downward with great violence upon them.

Larus dorſo cinereo, pectore albidiore. The great grey Gull.
The Larus, with a grey back, and a whiter breaſt.

This is a large and a very beautiful bird; it wholly reſembles the little grey Gull in form, but in colouring, as well as bigneſs, it is extreamly different; the bigneſs is about that of our widgeon: the head is ſmall, and flatted on the crown, and it is alſo a little compreſſed at the ſides: the eyes are large, and they have a dull or dead look, not that piercing aſpect which ſome of the others have: their iris is of a pale grey, and the pupil is ſcarce black, but rather of a deep olive: the beak is an inch and a half long, and is black throughout; the upper chap is ſomewhat arcuated in it's whole form, and is particularly hooked at the end more than in moſt of the other ſpecies: the lower chap has a conſiderable large protuberance between the angle and the apex: the noſtrils are very conſpicuous; they are of an oblong form, and ſtand very high toward the baſe of the beak.

The

The neck is ſhort, but it appears much ſhorter than it really is in the creature's uſual poſture, for it has a way of ſinking the head, as it were, between the ſhoulders; all the birds of this genus have more or leſs of this, but none of them nearly ſo much as this ſpecies: the back is of a very elegant grey colour, mottled with white, and with a tinge of brown diffuſed over it: the breaſt and belly are of the ſame colour, only it is paler; there is more of the white, and indeed very little of the brown in it: the wings are large, and their principal feathers are very beautifully variegated with white, grey, and brown, more diſtinctly placed than in the other parts: the rump is paler than the reſt of the back, and the feathers which immediately cover the tail are white, only that they have a few ſpots of brown on them: the tail itſelf is grey, brown, and white.

The legs are moderately long, and they are ſomewhat robuſt; they are of a very pale colour, whitiſh only, with a faint tinge of brown or olive: the toes are long, and the feet are webbed, only the hinder toe is very ſhort and inconſiderable.

This is a native of moſt of our ſea-coaſts, and of thoſe alſo of moſt other parts of Europe. Many of the writers on birds have deſcribed it. Ray and Willughby call it Larus cinereus major; and Aldrovand ſeems to mean it by his Larus albo-cinereus torque cinereo. We call it the great, grey Gull, and, in Cornwal, the Waggel. The Venetians call it Martinoze, and the Dutch, by a name expreſſing the Burgomaſter of Greenland.

Larus fuſco et griſeo ſuperne variegatus, inferne albus.
The Larus, with a brown and grey back, and a white breaſt.

The Coddy Moddy.

This is of the ſize of the common carrion-crow: the head is large, and is depreſſed on the crown, and conſiderably flatted or compreſſed at the ſides: the eyes are large, and have a bright and piercing aſpect; their iris is of a fine, elegant hazel, and the pupil of a deep black: the beak is about an inch long, and of a pale whitiſh-brown colour: the upper chap is arcuated, and moderately hooked; the lower chap has that protuberance, which is the characteriſtic of this genus, very large and conſpicuous: the tongue is long, white in colour, and bifid at the extremity.

The head is white, variegated very elegantly with ſpots of brown: the neck is ſhort and thick, and is brown: the middle of the back is of a duſky iron grey, but toward the ſides it is of the ſame brown with the neck: the breaſt and belly are white as ſnow; the rump alſo is whitiſh, with only a little admixture of brown, and ſcarce any grey: the wings are large, and, when expanded, have a great deal of white in them: the principal feathers are white, variegated, in different proportions, with dark grey and pale brown: the tail is moderately long, and is principally white, but darker at the ſides, and toward the end, than elſewhere.

The legs are moderately long and robuſt; they are of a pale whitiſh-grey, but with a tinge of greeniſh or olive colour thrown over them: the feet are webbed, and the toes are long, excepting the hinder one, which is ſhort and inconſiderable.

This ſpecies is very frequent in our fen countries; we have it in great plenty in Lincolnſhire, where the ſhooting them is a great diverſion among the country gentlemen. They fly high, and it is ſometimes difficult to kill the firſt; but, after that, it is but leaving the dead bird upon the ground, and they gather in numbers about it: in defect of this, they ſometimes lay a white handkerchief careleſſly folded together on the ground, and the birds are tempted to come near, under an opinion of it's being a hurt companion.

Many of the authors have omitted to deſcribe this ſpecies, though ſo frequent not only with us, but in many other parts of Europe. Ray and Willughby however have mentioned it; they call it Larus fuſcus ſive hybernus, in agro Cantabrigienſi Coddy Moddy vocatus.

Larus

Larus griſeo et albo variegatus, roſtro flavicante.
The grey and white Larus, with a yellow beak.

The Winder Web.

This is of the ſize of our widgeon, and at a diſtance appears to be all over white: the head is remarkably large and rounded; it is not at all either depreſſed or compreſſed in any part: the ears are very large and conſpicuous; the eyes are alſo very large and bright: their iris is of a beautiful gold yellow, and the pupil black as jet: the beak is about an inch and a quarter long, conſiderably thick, very much arched and hooked, and pointed at the extremity: the upper chap is of a beautiful yellow, except juſt at the point where it is black; the under chap is entirely yellow, and has a large protuberance: the noſtrils are oblong, large, and conſpicuous.

The head is white, variegated with moderately large and irregular ſpots of grey: the back is of a very pale colour, almoſt white, only variegated, in a clouded manner, with a pale grey: the breaſt and belly are alſo of the ſame colour, only with leſs of the grey; the wings are very large, and ſpread to a great breadth; they alſo have a great deal of white in them, but the long feathers are elegantly variegated not only with grey, but a cheſnut brown: the tail is conſiderably long, and is of a pale colour, almoſt white in the greater part, but duſky at the extremity.

The legs are moderately long, very ſlender, and yellow: the thighs are naked half the way up; the feet are webbed; the toes are long and yellow, and the claws ſhort and crooked: the hinder toe in this ſpecies is not inconſiderable, as in many of the others, but is moderately large, and armed with a claw like the others.

This ſpecies is met with on ſome of our coaſts, but it is not common with us, though it is very much ſo in many other parts of Europe. Aldrovand calls it Larus major; and Baltner, Larus hybernus. Willughby has preſerved both theſe names.

Larus albo et fuſco variegatus, alis nigricantibus.
The brown and white Larus, with black wings.

The Cepphus.

This is an extreamly beautiful bird; it is very different from all the reſt of the Lari in it's general form and colouring, and, except that the ſingularity of the protuberance under the beak, and the other leſs conſpicuous generical characters, referred it to them, would be eaſily miſtaken for a ſpecies of ſome very different claſs: the head is moderately large, but not ſo remarkably ſo as in many of the Lari, nor ſo remarkably ſmall as in ſome of the others. The bird appears of the bigneſs of a large tame pigeon, but this is owing to the feathers ſtanding looſe, for the body is, in reality, very ſmall and inconſiderable: the figure of the head is ſomewhat ſingular; it is a little compreſſed at the ſides, but is remarkably prominent on the crown: the eyes are ſmall, but they are very bright and piercing in their aſpect; their iris is of a fiery red, the pupil black: the beak is an inch in length, and moderately thick; it is of a deep gloſſy brown, or horn colour, in the body, but ſomewhat reddiſh at the ſides, and black at the point.

The head, neck, back, and breaſt are all of a very elegantly variegated hue; the colours are white and a cheſnut brown, but there are alſo ſome ſpots of yellow in different places.

The wings are moderately long, and their principal feathers are black, and their tips yellow. This occaſions a very ſingular, as well as a very elegant, appearance, when they are cloſed, as well as when the bird is flying: the legs are ſlender, and of a yellowiſh-brown; the feet are webbed, and the hinder toe is ſmall, and has no claw.

This ſpecies is not frequent with us, but I have had a preſerved ſpecimen of it ſent up from Scarborough, ſhot ſomewhere in that neighbourhood. Aldrovand has deſcribed

ſcribed it under the name of Cepphus; and many other of the ornithologiſts have followed him in his accounts of it, though few of them ſeem to have ſeen the bird.

Larus cinereus capite, et medietate alarum, nigricantibus.
The grey Larus, with the head and one half of the wing black.

The Braſilian Gull.

This is one of the larger ſpecies; the ſize is about equal to that of our common hen: the head is very large, and the neck ſhort and thick: the eyes are ſmall, and their iris is of a whitiſh-grey: the ears are wide and conſpicuous; the beak is an inch and half long; it is nearly ſtraight all the way to the extremity, but there it is crooked and ſharp: the upper chap is yellow along the middle, but of a deep brown on the ſides, and black at the extremity: the under chap is yellow throughout, and has a large protuberance on it's lower parts.

The head is black on the upper part; the neck and back are of a deep grey, and the breaſt and belly are white: the wings are very large; their covering feathers are grey, but the long feathers are all black half the way up from their extremities, and white in the reſt, where they are covered by the ſhorter: the tail is moderately long, and is alſo white toward the baſe or root, but the lower part of it is black.

The legs are long and robuſt; they are of a duſky orange yellow, and the feet are webbed; and the hinder toe is ſhort, but it has a claw like the reſt.

This is a bird of South American origin, but we ſometimes have the ſkin ſtuffed, and ſent over to us. The Portugueſe there call it Gavioſa; the natives, Guacuguacu; Marcgrave, and the others who have written on the Braſilian animals, have deſcribed it.

Larus nigricans alis cinereis, pedibus rubentibus.
The black Larus, with grey wings, and red legs.

The ſcare-crow Gull.

This is of the ſize of the common pigeon, and has very little the appearance of the Larus-kind, on a general view, though it has, when examined, all their characters: the head is large, and the feathers ſtand ſomewhat looſe upon it: the eyes are long, and of a piercing aſpect; their iris is of a yellowiſh-hazel, and the pupil is black: the ears are large, patulous, and conſpicuous: the beak is three quarters of an inch long; it is moderately arched in form, and is very hooked at the point; it is all over of a deep black, except that the noſtrils, which are oblong and narrow, are rather brown.

The neck is ſhort and thick: the whole head, the neck, and alſo the back, ſhoulders, breaſt, and belly are all of a coal black: the wings are very long; when cloſed, they reach beyond the extremity of the tail; they are of a very beautiful dark iron-grey: the tail is moderately long, and is of the ſame iron-grey with the wings, only that it is black at the end.

The legs are very ſlender and ſhort, they are of a beautiful ſcarlet; the hinder toe is very ſhort and inconſiderable, but it has a little claw on it.

The male and female of this ſpecies are no way to be diſtinguiſhed, but by an elegant white ſpot, which the male has under it's throat. This ſpecies has been ſuppoſed not a native of England, but I killed ſeveral, about four years ſince, among the Bognor rocks on the Suſſex coaſt, and was informed, by the country people, that they bred there. Moſt of the writers on birds have named it. Geſner and Aldrovand call it Larus niger; and Ray, Willughby, and others have continued the ſame name.

STERNA.

THE beak of the Sterna is of a ſubulated figure, and acute: it is compreſſed at the extremity, and has no denticulations along the ſides: the feet do not ſtand ſo backward as in many of the water-birds, but it walks conveniently with them.

Sterna rectricibus extimis maximis dimidiato-albis nigriſque.
The Sterna, with the largeſt outer tail feathers half black, and half white.

The Sea-ſwallow.

This is a very beautiful bird, and it's figure is very ſingular; it is equal in length nearly to the jack-daw, but it is very ſlender, and the body, when ſtripped of the feathers, is very ſmall: the head is ſmall, rounded at the top, but ſomewhat compreſſed at the ſides: the beak is moderately long, and almoſt ſtraight, but it is ſlender; it is red all the way, except at the tip or extremity, where it is black: the mouth is red on the inſide, and the tongue is pointed.

The head is black on the upper part, but white on the ſides, and on the under: the throat, the belly, and the feathers which cover the under part of the wings are white, but the middle of the breaſt has ſome grey in it: the rump is white; the back and the upper part of the wing are of a duſky grey: the wings are long, and their principal feathers have a great deal of whitiſh in them, but they are variegated with black: the tail is long and forked; it is from this that the bird has obtained with us the name of the Sea-ſwallow: the whole is compoſed of twelve feathers; the outer ones of theſe are ſix or ſeven inches in length; their outer edge is of a greyiſh-black, the middle ones are hardly three fingers long, and are totally white; the others have their outer edge grey, and the inner white.

This ſpecies is frequent about our ſea-coaſts in many places; they uſually fly in vaſt companies, and, when they build their neſts, are placed in vaſt numbers cloſe to one another, and they ſeem to bring up their young almoſt in common. They lay three, or ſometimes four, eggs, and their neſts are very careleſſly formed of a few pieces of reed, laid irregularly together; and ſometimes there is no neſt at all, but the eggs are laid on the naked ground. They fly very ſwiftly, and feed on the wing. They are continually hovering at a ſmall diſtance over the ſurface of the water; and, when they ſee any little fiſh in reach, they throw themſelves precipitately down upon it. They will plunge under water after their prey, and in this ſituation they often become themſelves a prey to ſome larger fiſh; if they eſcape this fate, they are up again in an inſtant, and very ſeldom fail to bring up the fiſh with them.

The length of the wing, and ſhortneſs of the feet in this bird, added to it's forked tail, and it's being almoſt continually ſeen flying, have obtained it the name of the Sea-ſwallow with us, and of Hirundo marina among authors. Geſner calls it Sterna; Willughby and Ray, Hirundo marina major, and Hirundo marina Sterna Turneri; our people, in ſome places, call them Serayes, and in others Terns.

Sterna ſupra cana, capite roſtroque nigro, pedibus rubris.
The greyiſh Sterna, with a black head and beak, and red legs.

This is a very beautiful ſpecies; the general figure wholly repreſents that of the former kind, and it's ſize is about equal, or, if any thing, a little ſmaller: the head is large, and of a very ſingular figure; it is rounded at the ſummit, a little depreſſed at the ſides, and of an acuminated figure toward the anterior extremity: the beak is moderately long, and is conſiderably convex; it is pointed at the extremity, and is all over black: the noſtrils are oblong and large, and are pervious and naked, and of a ſomewhat paler colour about their edges than the reſt.

The



The Great Didapper



The Dobchick



The Greatest Loon



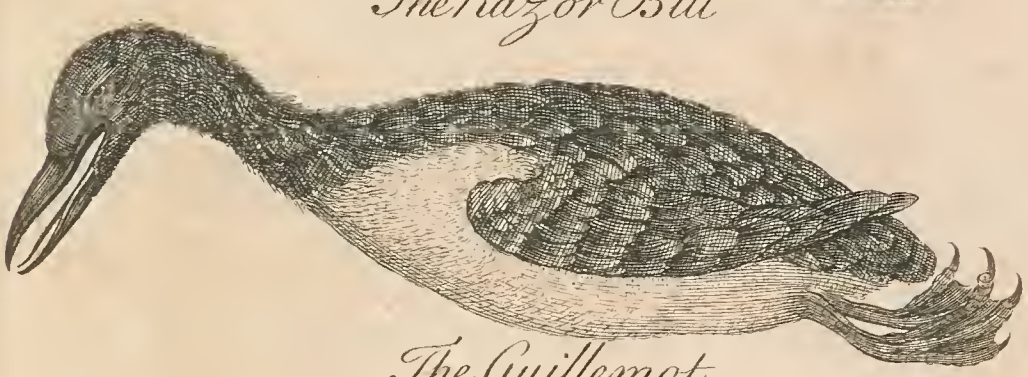
The Penguin



The Razor Bill



The Sea Turtle



The Guillemot



The Scare Crow



The Cepphus

The Great Grey Gull



The Blackish Grey Gull



The Lesser Sea Swallow



The Greater Sea Swallow. B. Cole fec.

The head is of a fine deep gloſſy black; the back, ſhoulders, and rump are of a ruſty grey colour: the breaſt and belly are alſo grey, but it is paler, and has a bright ſilvery appearance on the whole under ſurface of the bird, and particularly about the belly and ſides.

The wings are long; the covering feathers of their under ſurface are white, and ſo are alſo the covering feathers of the under part of the tail: the tail is a little forked, but not nearly ſo deeply as in the former ſpecies; it conſiſts of twelve feathers, and the two exterior ones of theſe are not ſo remarkably long as in the other: all the long feathers of the wings and tail are of one uniform colour; they are grey on the upper ſide, and white underneath.

The legs are ſhort and red; the feet are large, and are ſemi-palmated: the toes are long, and the claws black: the hinder toe is inconſiderable, and the claw of the middle toe is marginated on the inner ſide.

This is leſs frequent on our coaſts than the former ſpecies, but I have ſeen it in Yorkſhire. It is much on the wing, but not ſo continually as the former; at other times it lies down among the ſedge, not ſeeming very fond of walking. Few of the writers on birds have deſcribed it. Linnæus mentions the having met with it near Upſal, and calls it Sterna ſupra griſea capite roſtroque nigro pedibus rubris. It is no where very common, ſo that there is the leſs wonder that it has been overlooked by many.

Sterna rectricibus maximis nigris.
The Sterna, with the largeſt of the tail feathers black.

This is a very beautiful ſpecies, and in it's general figure more reſembles the common ſea-ſwallow, than the laſt deſcribed ſpecies; it's bigneſs is about that of the common black-bird: it's head is large, ſomewhat depreſſed on the crown, and a little flatted on the ſides: the eyes are large, and their iris is of an orange colour, with a ſtrong admixture of a fiery red: the beak is ſhort; it is thick at the baſe, moderately convex on the back, and very ſharp at the point.

The upper part of the head is of a deep black behind the eyes, but of a paler or greyiſh colour toward the front: the upper part of the neck, as alſo the ſhoulders, back, and ſides are brown: the breaſt and throat are white, and the belly alſo is whitiſh, but it has a tinge of brown: the wings are moderately long; they are of a greyiſh-brown, with a tinge of olive on the upper ſide, and whitiſh underneath: the tail is long, and very forked; and the two extream or outer feathers of it, which are much longer than any of the others, are black: the legs are ſhort, and of a dark colour, with a tinge of greeniſh diffuſed over them: the feet are large and ſemi-palmated; the toes ſtand three before, and one behind; the hinder one is ſmall and inconſiderable: the claws are all black, and that of the middle toe is ſerrated and marginated on the inner part.

This is not a native of England, but it is occaſionally met with on our coaſts. It breeds in Sweden, Denmark, Norway, and many other parts of the North of Europe. Many of the ornithologiſts have deſcribed it, though there are many alſo that have omitted to mention it. Ray calls it Strautjager, id eſt, Caprotherus; Bartholine, Truen ſive Fur; the Danes call it Kyuffwa ſive Tjufva; and the Swedes, Swartloſſe and Labben. We have no name for it.

B I R D S.

Claſs the Fourth.

SCOLOPACES.

THE characters of the Scolopaces are, that the beak is of a cylindric figure, rounded and obtuſe; and the legs are often naked about the middle of the thigh.

ARDEA.

THE beak of the Ardea is very long, and ſomewhat compreſſed: the upper and under chaps of it are both of a length, and there runs a furrow from the noſtril: the legs are very long: the toes are four, and theſe alſo are long and connected.

Ardea vertice papilloſo.
The Ardea, with the top of the head papilloſe. **The Crane.**

This is a very large, ſtately, and beautiful bird: it's body is not very bulky, however, in proportion to the length of the neck and of the legs; it's general weight is about eleven pounds, and if meaſured in an extended poſture, from the tip of the beak to the extremities of the toes, it is more than five feet in length.

The head is moderately large; it is rounded and prominent on the crown, and ſomewhat, though but little, compreſſed at the ſides: the eyes are large and piercing; the beak is long, ſtraight, ſharp at the point, and ſomewhat compreſſed at the ſides: it's colour is a blackiſh-green; the tongue is broad, and is of a firm and, as it were, horny ſtructure at the extremity: the crown of the head is black; this colour extends from the front of the head, at the origin of the beak, to the hinder part, and all this is covered rather with ſhort hairs than feathers: in the hinder part of the head there is a ſmall ſpace of a lunulated figure which is naked, of a ſcarlet colour, and of a granulated ſurface; and below this there ſtand ſome grey feathers, which form a triangular ſpot on the neck; at it's top, on the upper or hinder part from each eye, there runs alſo a fine white line, which continues it's courſe ſtraight backward; theſe join the triangular grey ſpot already mentioned, juſt below the hinder part of the head, and are continued from thence again, quite down to the breaſt: the throat and the ſides of the neck are of a duſky blackiſh colour: the back, ſhoulders, breaſt, belly, and thighs, and the covering feathers of the wings, excepting only thoſe on the extream joint, are grey.

The wings are very large; the long feathers in each are twenty-four in number, and they are black, only the ſmaller ones have ſomething of a reddiſh-brown tinge in the black, as have alſo the primary covering feathers on the extream joint: the tail is ſmall and ſhort, and is compoſed of twelve feathers: when it is expanded, it is round; the feathers which compoſe it are grey, but their tips or extremities are black.

The legs are extreamly long, and they are naked to at leaſt a hand's-breadth above the joint, commonly called the knee: they are black; the toes alſo are black, and are very remarkably long: the outer toe of each foot is connected to the joint of the middle one, by a very tough and ſtrong membrane.

There is ſomething very ſingular in the wind-pipe of this bird; it enters the ſternum by an aperture, formed for that purpoſe, and after penetrating deep into it, and making

making ſome turns in it, it comes out again at the ſame paſſage, and then makes it's way to the lungs.

This beautiful and ſingular bird is a native of Holland, and of many other of the northern parts of Europe, as well as ſome of the more ſouthern, but it does not breed with us. It comes over to us occaſionally, however; we ſometimes ſee a ſingle crane ſtraggling in one or other part of the kingdom, but in the fens of Lincolnſhire it is otherwiſe: I have there met with large flocks of them, and there are people who pretend that they breed there. Though the crane frequents waters, it is not one of thoſe birds which feed on fiſhes. It's fleſh is very delicate, and this, as well as the muſculous ſtructure of the ſtomach, declare for it's feeding on vegetables. It is frequent in the markets of Italy, and ſome other places; but, in ſome countries where it is very common, it is a ſuperſtition that they ſhould not be killed. All the authors who have written on birds have named it, and all under the ſame ſimple name Grus.

Ardea vertice toto nudo papilloſo, roſtro longiore.
The Ardea, with the whole upper part of the head papilloſe, and the beak long.

The Indian Crane.

This is a ſmaller bird than the European crane, otherwiſe it is very like it: the head is large, and is ſomewhat compreſſed at the ſides, but it is rounded at the crown: the eyes are large, and their iris is of a beautiful yellow: the beak is conſiderably longer than in the common crane, but it is leſs robuſt; it is ſhort, and pointed at the end: the noſtrils are oblong, and very conſpicuous, and are of a greyiſh-colour; the reſt of the beak is of a blackiſh colour, but with a tinge of olive among it.

The head is all over naked on the crown, and the fleſh riſes into a kind of granulations or papillæ, with a few black, ſhort, and ſtiff hairs among them: the naked part extends from the very baſe of the beak to the top of the neck: the ſides of the head are blackiſh, but toward the eyes there is ſome whiteneſs; the neck is immoderately long, and is of a deep aſh-colour; the throat indeed is almoſt black: the breaſt and belly are white, and the back, ſhoulders, and covering feathers of the wings are grey: the rump only is a little paler than the reſt.

The wings are very large; their long feathers are of a deep iron-grey: the covering feathers of the extream joint are whiter than the reſt: the tail is very ſhort and inconſiderable; it is ſcarce ſeen beyond the tips of the wings: the legs are black; they are very long, and are naked half way up the thighs: the toes are very robuſt, but much ſhorter than thoſe of the common crane.

This is a native of the Eaſt and Weſt Indies, but it is no where ſo common as on the iſland of Madagaſcar. It feeds on water plants, and is continually ſeen wading in ſhallow brooks, and on the ſides of rivers; the common people therefore ſuppoſe it feeds on fiſh, but that is an error. Moſt of the writers on birds have deſcribed it. Willughby, Ray, and others call it Grus Indica, and ſome Grus minor Indica.

Ardea capite criſtato.
The Ardea, with a creſted head.

The Balearic Crane.

This is an extreamly ſingular and beautiful bird; it's body is of the bigneſs of that of a gooſe: it's neck and it's legs are immoderately long: the head is moderately large, but the ſingular arrangement of it's feathers makes it appear much more ſo than it really is: the eyes are large, bright, and piercing; the beak is robuſt and thick at the baſe, but it is ſhorter than that of the crane; it does not exceed, indeed, three inches in length; it is throughout of a deep olive colour, except that the tip or point is quite black, and the noſtrils are grey and pale.

The head is a little flatted at the ſides, and rounded, not at all depreſſed, on the top: on the crown there ſtands a moſt ſingular and elegant tuft of briſtles, in form of a creſt: they are very numerous, and ſpread every way ſo, as to form a round figure in the whole; they very much reſemble the briſtles of a hog in thickneſs, and are of a deep brown colour, with a ſlight tinge of yellowiſh: on each ſide of the head there is a ſpot of white, which terminates in a red line; and under the baſe of the beak there is a red fleſhy appendage, in form of the wattles of the turkey-cock, only ſmaller.

The whole bird is of a coal-black colour, except that ſome of the ſmaller of the long feathers of the wings are white: the wings are very large; and the tail is very ſhort and inconſiderable, and is totally black: the legs are of a deep olive colour, approaching to black, and are naked a great way above the knees.

This ſingular ſpecies is a native of the Cape Verde iſlands, and ſome other places; it is frequent there in all the watery places, and has a way of uſing it's wings to aſſiſt it in running, which it does with great rapidity. All the authors who have written on birds have deſcribed it. Aldrovand calls it Grus Balearica; and Ray, Willughby, Charleton, and moſt of the moderns retain the ſame name. I have met with it once ſhewn as a curioſity in London, but it is not frequently ſeen alive in Europe.

Ardea roſtro longiore, capite nigricante, corpore albido.
The long-beaked Ardea, with a black head, and a white body.

The Jabiru.

This is a very large and very ſingular bird, as it ſtands erect; it is five feet in height; the body is of the bigneſs of that of a ſwan: the legs are more than two feet in length, and the neck is long, in proportion: the head is large and rounded; the eyes are large and black; the beak is very long, and conſiderably broad and thick; it is ſtraight all the way to the extremity, where it turns up a little: it is of a deep black, and of a gloſſy ſurface, only that the noſtrils, which are oblong, are grey and rough.

The head is black, and the upper part of the neck is alſo blackiſh; this part is often naked, and the ſkin is then ſeen to be perfectly black: when the feathers are on it, they are but few, but thoſe on the neck are whitiſh: the lower part of the neck is of a ſnow-white, and ſo is alſo the whole body of the bird, as well the back as the breaſt and belly: the wings alſo are perfectly white, and their long feathers are of a brighter and purer white than any other part of the bird.

The legs are long and very robuſt; they are of a coal-black all the way to the joint, called the knee, and are naked alſo half way up the thigh, but they are there of a deep olive colour: the toes are very long and robuſt, and are alſo black: the tail is very ſhort, and does not appear beyond the tips of the wings, when they are cloſed.

This ſpecies is a native of the Braſils, and of no other part of the world, ſo far as is yet known. The natives call it Jabiru; the Dutch give it the name of Negro. It lives about waters, and feeds on the water plants, and ſometimes, though more rarely, on fiſh.

Ardea alba, capite cinereo criſta oſſea ornato.
The white Ardea, with a grey head, and a white bony creſt.

The Jabiru Guacu.

This is an extreamly ſingular bird, much more ſo indeed than the former ſpecies; it is four feet and a half high, as it ſtands erect; it's body is of the bigneſs of that of a gooſe, and the legs are very long, as is alſo the neck: the head is large and round; the eyes are alſo large and black, and the apertures of the ears are very wide:

the

the beak is ſix inches long, and is ſtraight all the way, till near the extremity, where it is a little crooked: the noſtrils are oblong and large, and the lower part of the beak is hollow: the baſe of it is of a deep black, and the reſt is alſo blackiſh, but there runs a tinge of olive through it.

The head and the upper part of the neck are naked; there are no feathers in them, but the ſkin is ſquammoſe, and of a grey colour: the top of the head is ornamented with a creſt of a very ſingular appearance; it is of a bony ſtructure, and of a mixed grey and white colour: the whole body is white; the wings are large, and their long feathers are of a very beautiful deep and gloſſy black, but with a glow of purple ſhining through it: the tail is very ſhort and black.

The legs are long and robuſt; they are naked half way above the joint of the knee, and are of a deep ſhining black: the toes are long, robuſt, and black.

This is a native of the Braſils, where it is eſteemed very delicate at table. The natives call it Jabiru Guacu, and, in ſome places, Nhandu Apoa; the Dutch call it Scurvagel. Moſt of the modern writers on birds have deſcribed it after Marcgrave, who gives it under theſe names.

Ardea cinerea fuſco variegata, criſta plumoſa variegata. **The Cariama.**
The grey Ardea, variegated with brown, in a feathered creſt.

This is a beautiful bird, and is extreamly different from all the former; it is about three feet high, as it ſtands erect; it's body is about equal to that of a well-grown pullet, and the legs and neck are very long, and much leſs robuſt than in the ſeveral preceding ſpecies.

The head is large, and of a rounded figure; neither depreſſed on the crown, nor flatted at all at the ſides: the eyes are large; their iris is yellow, and the pupil black: the beak is ſhort, in compariſon with that of the generality of the birds, and is ſtraight all the way, to near the extremity, where it turns up a little: it is of a deep, duſky, yellow colour, and the noſtrils are blackiſh, oblong, large, and very conſpicuous.

The neck and body are elegantly coloured; the ground colour is a deep iron grey, but this is variegated with ſpots of brown, and of a bright yellow, in the manner of the backs of ſeveral of our hawk-kind: the head is grey, with a ſmaller admixture of the brown or yellow; and on the front, juſt beyond the baſe of the beak, there ſtands a large and elegant creſt, not of a bony ſtructure, and naked, as in the preceding ſpecies, but compoſed of a great number of elegant feathers; it carries this erect, and it's ground colour is the ſame grey with that of the body, but it is elegantly and very deeply variegated with black.

The wings are very large; the tail is ſhort; it juſt appears beyond the tips of the wings, when they are cloſed: the covering feathers of the wings and tail are of the ſame variegated hue with thoſe of the body, but the long feathers of each are ſimply brown, ſo that they appear both of a deep and unmixed brown at their extremities.

The legs are very long and yellow: the toes are long, but not very robuſt: the hinder one is ſmall; and ſtands very high up, at a conſiderable diſtance from the reſt.

This is a native of the Braſils, where it's fleſh is eſteemed a great delicacy. It frequents watery places, but it feeds only on vegetables. It's note is loud, and like that of the peacock. Marcgrave has deſcribed it under the name of Cariama, and moſt others have followed him in this.

Ardea capite cornuto.
The Ardea, with a horn on the head.

The Anhima.

This is another of the Braſilian birds, ſo very different from all the European, that, if one had not ſeen the ſkin of it preſerved and ſent over in a very good condition to us, it would be very difficult for us to be brought to believe there could be ſuch a creature.

It's body is of the bigneſs of that of the ſwan, and it's neck and legs long; but the legs bear no proportion to the neck in length, as in other ſpecies: the head is large and rounded; the eyes are large, and very bright and piercing; the iris is yellow, and the pupil black: the beak is long, large, and black; it is ſtraight all the way to the extremity, but there it is bent a little downward: the noſtrils are oblong, and very conſpicuous.

On the front of the head, juſt above the baſe of the beak, there ſtands a bony protuberance, of an oblong and conic form, turning forwards, and very much reſembling a horn: this is white, and very ſharp-pointed at the end; it is about an inch and a quarter in length, and of the thickneſs of a ſkewer: the head is of a mixt white and black colour; at a diſtance, the combination of theſe forms a kind of iron-grey, but, when ſeen near, they are found to be diſtinct colours, and the variegations not ſmall: the bottom of the bony protuberance or horn is ſurrounded with a very elegant ſeries of ſhort and ſlender feathers; they ſtand erect, and are, like the reſt of the head, variegated with black and white: the ſides of the neck, toward the top, are black; part of the throat alſo is black, but the lower part of the neck, and the whole breaſt and belly, are variegated with white, black, and grey feathers: the back is blackiſh; the ſides alſo and the upper part of the wings are black, and the belly, toward it's lower part, is paler than elſewhere, and the covering feathers of the thighs are alſo whitiſh.

The wings are very long and large, and their long feathers are of a deep and gloſſy black, with a tinge of changeable green; the covering feathers are of a deep and perfect black; the tail alſo is black, but it is moderately long, and ſhews itſelf to ſome extent beyond the tips of the wings, when they are cloſed.

The legs are robuſt and long, but not proportionably to the length of the neck, and they are of a deep and duſky brown colour: the toes are long and robuſt, and the claws are large, black, and ſharp.

This is a native of the Braſils; it frequents the lakes and other freſh waters, and feeds on fiſh. The Braſilians call it Anhima, and Marcgrave has deſcribed it under the ſame name; and all the reſt have followed him in this, as well as in all the particulars of the deſcription.

Ardea tota alba capite lævi.
The white Ardea, with a ſmooth head.

The Garza.

This is a large and beautiful bird, when it ſtands erect; it is more than three feet in height, but it's body is not very bulky, the whole bird ſeldom weighing more than two pounds and a half: the head is tolerably large, and ſomewhat depreſſed on the crown, but rounded at the ſides; the eyes are large, and very bright and beautiful; the iris is of a pale yellow, and the pupil of a deep black; the beak is long and yellow, and the noſtrils are oblong.

The head is naked on the front; the ſpace between the eyes and at the baſe of the beak is covered with a greeniſh ſkin, and the eye-lids alſo are naked, papilloſe, and greeniſh: the whole bird is of a beautiful ſnow-white; the wings are long and large; the

the tail is ſhort; the long feathers in each wing are twenty-ſeven; the tail is compoſed of twelve, and theſe, as well as thoſe of the wings, are of a very bright and pure white: the legs are long and robuſt, and the claws are long.

This ſpecies is a native of Italy, and many other of the warmers parts of Europe, and there are authors who mention it's being ſeen in England. Moſt of the writers on birds have deſcribed it. Ray, Willughby, and others call it Ardea alba major; and the Venetians, who have it very frequent among them, call it Garza.

Ardea criſta dependente.
The Ardea, with a hanging creſt.

The common Heron.

This is a tall bird, though it's body be not very large; it meaſures more than four feet from the point of the beak to the tip of the toes, and it's weight is about four pounds: the head is ſmall, and depreſſed a little on the crown: the eyes are large, and of a very bright and piercing aſpect: the beak is long and ſharp; it is compreſſed, and the upper chap is black, but the under one is of a pale fleſh colour.

The anterior part of the head is covered with ſhort and ſoft white feathers; from the hinder part there hangs over the neck a creſt of very long feathers, theſe are black, and the creſt, in it's uſual ſituation, hangs over the neck; the throat, juſt under the baſe of the beak, is of a ſnow-white: there are two ſpots of white near the eyes, which, in the male, blend and confound themſelves with the white of the front; in the female they are more diſtinct: the upper part of the neck, the ſhoulders, the back, and the covering feathers of the wings are of a duſky bluiſh-grey; the under part of the neck is white, and is variegated with longitudinal ſpots of black: the breaſt and belly are white, and the feathers which cover the thighs yellowiſh.

The long feathers in each wing are twenty-four, and they are black: the tail is ſhort; it is compoſed of twelve feathers, and is of a pale greyiſh colour, with a tinge of blue.

The legs are long and blackiſh, but the naked part of the thighs is of a light fleſh colour: the toes are long and black; and the claw of the middle one, which is longeſt, is ſerrated on the outer ſide: the outer toe is joined to the middle one.

This is very frequent with us, eſpecially in watery places, and wades up to the mid thigh in our brooks and ponds in ſearch of fiſh, of which it is a great deſtroyer. All the writers on birds have deſcribed it. Geſner calls it Ardea pulla ſive cinerea; Jonſton, Ardea cinerea; and Aldrovand, Ardea cinerea major, which laſt name has been copied by Ray, Willughby, and moſt of the other writers ſince his time. We call it the Heron and Heron's-bow.

Ardea vertice nigro, pectore pallido maculato.
The Ardea, with the top of the head black, and the breaſt pale and ſpotted.

The Bittern.

This is a very ſingular bird; it is about equal to the common heron in ſize, but very different in the colouring: the head is moderately large, and ſomewhat depreſſed on the crown: the eyes are very large, bright, and piercing: the beak is long and ſharp; it is of a convex figure, and a duſky black colour: the noſtrils are very conſpicuous; they are oblong, and are covered with a kind of ſcale on the upper ſide; from theſe there runs on each ſide a long furrow to the very point of the beak: the tongue is narrow, acute, and triangular.

The crown of the head is black, and there is alſo a black ſpot on each ſide, at the angle of the mouth: the throat and the ſides of the neck are of a reddiſh-brown, and have frequent variegations of oblong black ſpots, running in a tranſverſe direction: the neck is covered, on the back part eſpecially, with long and narrow feathers, and

the longeſt of theſe, which are thoſe toward the breaſt, are black in the middle: the lower part of the belly, and the thighs on the inſide, are of a pale, whitiſh-red, but the feathers, on the outer part of the thighs, are of a deeper colour, and they are ſpotted with black.

The back and whole upper part of the bird are elegantly variegated with brown, black, and grey, in a beautiful arrangement, and irregular blotches.

The long feathers in the wings are ſome of them black, from the tip up to a third part of the feather; the reſt are irregularly variegated with black and brown, in tranſverſe lines: the ſmaller feathers of the wings are of a pale reddiſh-brown: the black ſpots are larger, between the ſhoulders, than in any other part, and they run downward, and the reddiſh-colour from this part degenerates into a kind of yellowiſh tawny: the legs are long and robuſt, and they are naked more than half way up the thighs: the toes are very long and thick, and the claws are robuſt, long, and ſharp.

This ſpecies is a native of England, and is very common in our fen countries, but more rare elſewhere. We meet with it ſkulking among the reeds and ſedge, and it's uſual poſture is with the head and neck erect, and the beak pointed directly upwards; it will ſuffer perſons to come very near it ſometimes without riſing, and has been known to ſtrike at boys, who have got into the cloſer retirements in it's way up from the cover. It will do the ſame by the ſportſman, when wounded, and unable to make it's eſcape; it always aims the ſtroke at an eye, and has ſometimes been fatal. It flies principally toward the duſk of the evening, and then riſes in a very ſingular manner by a ſpiral aſcent, till it is quite out of ſight. It makes a very odd noiſe ſometimes, as it is among the reeds; and a very different, though ſufficiently ſingular one too, as it is riſing on the wing in the night; theſe different notes have obtained it, among our country people, the two names of the *Butterbump* and the *Night-Raven*; it's genuine and proper Engliſh name is the *Bittern*. All the writers on birds have deſcribed it. Geſner calls it Ardea ſtellaris minor; Aldrovand, Ardea ſtellaris minor ſive Ocnus; Willughby, Ray, and others, Ardea ſtellaris.

Ardea nigra, pectore abdomineque albis.
The black Ardea, with the breaſt and belly white.

The black Stork.

This is an erect and beautiful bird; it is larger than our heron in the body, but it's neck is not quite ſo long, in proportion; ſo that, when it ſtands erect, it is hardly quite ſo tall as that bird: the head is large and rounded in the general figure, only a little depreſſed on the ſummit: the eyes are large and bright; the beak is long, ſtrong, ſharp at the point, and all the way of a green colour, only paler on the upper part than below: the tongue is red, and is ſhort, though the length of the beak is not leſs than eleven inches: the mouth opens to a vaſt extent, and the throat is enormouſly wide: the neck is about ten or eleven inches in length, and is moderately thick; it is black, as are alſo the back ſhoulders and wings; indeed, the whole upper ſurface of the body is of this colour, but the breaſt and belly are white.

The legs are long, and not very robuſt; they are of a deep green colour, and they are naked more than half way above the knee: the toes are long, robuſt, and armed with ſharp claws.

This is a native of Italy, and moſt of the warmer parts of Europe, nor is it confined to thoſe; it is ſeen in Denmark, Norway, and Sweden, but not that I know of in England. All the writers on birds have deſcribed it, and almoſt all of them under the ſame name, Ciconia nigra.

Ardea

Ardea alba remigibus nigris.
The white Ardea, with the long wing feathers black.

The common Stork.

This is a leſs beautiful bird than the former, but it is ſomewhat larger, when it ſtands erect; it is between three and four feet high, and it's body is of about the ſize of that of a gooſe: the head is large, round, and ſomewhat depreſſed at the top; the neck is long, but it is conſiderably thicker than that of the heron, and therefore appears ſhorter: the eyes are large and piercing in their aſpect; the beak is long and robuſt, very ſharp at the point, and all the way of a beautiful red: the head is white, as is alſo the whole neck: the ſhoulders, back, and ſides are alſo white, and ſo are the breaſt and belly, but the rump and part of the wings are black.

The tail is white, but the long feathers of the wings are black; and this, whether the wings be cloſed or expanded, gives a pleaſing variegation to the bird: the legs are red, and they are very long, and naked a great way up: the feet are of a deeper red than the legs; the toes are long and robuſt, and the claws long, black, robuſt, and not ſharp, but broad, like the nails of the human fingers: the barrels of the quills, from the wings, are as large as thoſe of the ſwan, and they make the moſt laſting and uſeful pens in the world.

This bird is a native of many parts of Europe, and is preſerved in many places from all inſults and injuries by way of ſuperſtition; it does not breed with us, and is indeed but rarely ſeen here. It frequents the ſea-coaſts, and feeds on fiſh and reptiles: it has a way of making a very odd noiſe, by clapping forcibly the two ſides of the beak together. All the writers on birds have deſcribed it. Geſner and many others call it, ſimply, Ciconia; but Ray, Willughby, and ſome more, by way of diſtinguiſhing it from the ſpecies before deſcribed, call it Ciconia alba, the white Stork.

Ardea nigro et albo variegata.
The variegated, black, and white Ardea.

The Braſilian Stork.

This is of about the ſame ſize with our common heron, but the head is larger, and the neck, though not ſhorter, is conſiderably thicker, and thence appears to be ſo: the head is of a rounded figure, ſcarce at all depreſſed on the crown; the eyes are large, and their aſpect piercing; their iris is yellow: the beak is near a foot long; it is of a bright red all the way, except at the tip, where it is blackiſh: the opening of the mouth is enormouſly wide, and the tongue of a pale fleſh colour, and very ſmall: the head and neck are white, except that in the male there are a few longitudinal black ſtreaks on the back of it: the feathers at the bottom of the neck form a kind of ruff; they are of a ſnow-white, and are remarkably long and narrow: the back is entirely white to the rump, which is variegated in an elegant manner, with black and white: the covering feathers of the wings are alſo variegated with black and white in large blotches, and the long feathers are entirely black.

The wings are conſiderably long, but the tail is very ſhort; when the wings are cloſed, their tips reach to the extremity of the tail, ſo that in this ſtate there is no tail at all ſeen: there is a fine ſcarlet ſpace about the eyes, when the ſkin is naked; and at the baſe of the beak there is alſo a naked ſpace, covered with the ſame ſcarlet ſkin; this it can ſwell out into a kind of bag, when it it angry: the legs are long and robuſt, they are of a fine red colour: the toes are thick and long, and their claws broad and flatted.

This ſpecies frequents the freſh as well as ſalt waters in South America, and it's fleſh is eſteemed a delicacy there; it has a way of making the ſame odd noiſe that the ſtork does, by the ſnapping together the two parts of the beak. It feeds on reptiles that frequent the waters, but not on fiſh. Marcgrave, in his account of the Braſils, has deſcribed it under the name of Ciconia Americana Maguari Braſilienſibus; and moſt of thoſe who have written ſince, on the ſame ſubject, have taken his name.

Ardea nivea criſta brevi ſuberecta.
The ſnow-white Ardea, with a ſhort and ſomewhat erect creſt.

This is an extreamly elegant bird, and is one of the leaſt of this genus; when it ſtands erect, it is not more than a foot and half high, and it's body is not larger than that of a ſmall pullet: the head is ſmall, of an oblong figure, and rounded at the top, not at all compreſſed, as it is in ſome ſpecies: the eyes are ſmall, and their iris is of pale yellow; their aſpect not ſo bright and piercing as in many others of this genus: the beak is about three inches and a half long, very large at the baſe, and ſharp at the point, and is throughout black.

There is a green ſpace naked about the eyes; and the baſe of the beak, eſpecially on the under part, has ſomewhat of a greeniſh about it: the whole bird is of a beautiful ſnow-white, and there grows on the hinder part of the head a creſt, but it is compoſed of ſhorter feathers than that of our common heron, and does not droop ſo much, but often appears in a ſuberect poſture, eſpecially when the bird is alarmed at any thing.

The wings are moderately large and long, and their principal feathers are of a brighter white than that of any other part of the body: the barrels of the quills in theſe are very thick, in proportion to the length of the plumage, and are greatly eſteemed for making pens: the tail is ſhort; when the wings are cloſed, it does not appear, for the tips of the wings reach to it's extremity; it is of a fine bright white, but not ſo lucid as the wings.

The legs are long and ſlender, and are properly of a deep green colour, but they are often covered with a kind of looſe ſkin of a black colour: the toes are long, and the claw of the middle one is denticulated: the feathers which fall down on each ſide of the body of this bird from the ſhoulders are long, narrow, and of a very elegant figure, and ſnow-white colour; they are ſold at a conſiderable price in Italy, and are even carried to the Turks dominions, for the ornamenting of hats, and other parts of dreſs.

This elegant ſpecies is frequent about Venice, and in ſome parts of Italy, but it is not ſeen in the northern parts of Europe. Moſt of thoſe who have written on birds have deſcribed it. Geſner and Aldrovand call it Ardea alba minor ſive Gazetta; Bellonius, Aigretta Gallorum; Willughby and Ray call it Ardea alba minor Venetiis, Gaza Giovanne, ſed falſo.

Ardea caſtanea capite flavo et nigro variegato.
The brown Ardea, with the head variegated with black and yellow.

The Cirris.

This ſpecies is extreamly different in colour from the generality of the Ardeæ, but it's form is almoſt exactly the ſame with that of the common heron; when it ſtands erect, it is about ſixteen inches high; it's body is of the bigneſs of a ſmall pullet, and it's general colour is brown: the head is ſmall, and a little depreſſed on the crown: the eyes are ſmall, and their iris is of a pale yellow, approaching to that we expreſs by the term lemon colour: the beak is very long and robuſt; it is toward the baſe of a bluiſh-green, but toward the point of a deep black; one half of the beak is of one theſe colours, and the other half of the other.

The ground colour of the head is a bright and elegant cheſnut-brown, but it is variegated with black, and with gold-yellow; theſe colours run in a mixed manner down the back part of the head, and the top of the neck, and form the appearance of a creſt: the back, ſhoulders, and rump, and alſo the upper part of the wings, are all of a deep but very gloſſy brown: the breaſt and belly are of the ſame colour, only paler,

ſpaler, and there is ſome tinge of yellowiſh in it: the whole bird, however, at a mall diſtance, appears of one uniform brown.

The neck is ſhorter in this ſpecies than in any other of the genus, but the legs are long; they are of a bright red colour, and are naked about the joint, commonly called the knee: the toes are very long, and the claws large and broad.

This ſingular ſpecies is a native of Italy, and of ſome parts of the Eaſt; many of the writers on theſe ſubjects have deſcribed it, though ſome have omitted it. Aldrovand calls it Ardea Hæmatopus, ſive Cirris Virgilii Scaligero; others have called it Ardea Hæmatopus.

Ardea fulva capite et collo nigro, flavo, et albovariegatis.
The yellowiſh Ardea, with the head and neck variegated with black, white, and yellow.

The Squacco.

This, when it ſtands erect, is about fourteen inches in height; the body is moderately large, but the neck is ſhorter than in moſt others of this genus: the head is large and round; the eyes are large, and their iris is of a gold yellow: the beak is not more than three inches in length, but it is very robuſt; it's colour throughout is blackiſh, but with a mixture of a ferrugineous brown.

The neck is very thick, and this, as well as the head, is very elegantly variegated with oblong and irregular blotches of black, white, and yellow: the back and ſhoulders, as alſo the rump, are of a deep ferrugineous brown, with ſome obſcure variegations of blackiſh and yellowiſh, but no white: the wings are in great part white, but there is ſome variegation of a yellowiſh-brown in them: the breaſt and belly are perfectly white, and ſo is the tail, which is ſhort, and does not appear beyond the tips of the wings, when they are cloſed.

The legs are long and yet robuſt; they are yellow, and are naked a good way above the knee: the toes are long, and the claws flatted.

This is a native of the coaſts of the Levant in many places. Aldrovand is the firſt author who has deſcribed it, and from him moſt of the others have borrowed their accounts of it. He calls it Ardea quam *Squacco* vocant; and Ray and Willughby have continued the name.

Ardea ferruginea, criſta capitis nigro et albo variegata.
The brown Ardea, with a black and white creſt.

The Squaiotta.

This is about eighteen inches high, when it ſtands erect: the head is ſmall, and appears the more ſo, as the neck is thick: the eyes are moderately large; their iris is of a deep orange colour, with an admixture of a fiery red: the beak is between four and five inches in length, of a yellowiſh colour toward the baſe, and black at the extremity: the tongue is ſmall and red.

The head in general is of a deep ferrugineous brown, but it is ornamented on the hinder part with a moderately long creſt of a mixed brown, black, and white colour; this hangs down upon the neck, and is a very great ornament to the bird: the neck is of a deep ferrugineous colour: the back and the upper part of the wings are alſo of the ſame colour, but with a greater admixture of reddiſh: the long feathers of the wings, are black; the tail alſo is black, and is a little longer than the tips of the wings, when they are cloſed. In the males, the middle feathers of the creſt are of a pure white, and the outer ones black; but in the females the variegation is irregular, and there is an admixture of brown, like that of the body: the legs are long, robuſt,

and green; they are naked but a little way above the knee, and the toes are long, and armed with red claws.

This is a native of the Eaſt, and of ſome parts of Europe. Aldrovand calls it Ardea vulgo Squaiotta dicta, and moſt of the writers ſince have uſed the ſame name.

Ardea cinerea pectore et lateribus rufis.
The grey Ardea, with the breaſt and ſides of a reddiſh-brown.

This is a ſingular and a beautiful bird; it is of the ſize of the common heron, but it's neck is not quite ſo long as in that ſpecies: the head is large and rounded; the beak is long, and very robuſt; it is of a very deep olive, or a mixt tinge of greeniſh and black: the eyes are very large, and their iris is of a deep orange colour: the crown of the head is of a deep black colour, and from the hinder part of it there hangs a conſiderably long creſt of the ſame black, but ſometimes toward the edges a little variegated with a deep iron grey: the neck is of a very deep grey on the upper or outer ſide, and of a much paler at the throat.

The back is of a bright aſhy grey, but toward the rump it it is much darker than elſewhere; and in the male bird it is all over very dark, in compariſon of what it is in the female: the ſhoulders give origin to a conſiderable number of long and ſlender feathers, which fall down to the ſides, and are reddiſh, or of a ferrugineous brown: the breaſt alſo is of the ſame reddiſh-brown, and the belly has the ſame tint but paler: the covering feathers alſo, of the under part of the wings, are of this reddiſh-brown.

The thighs are of a whitiſh brown, but ſtill with ſome tinge of the ferrugineous or reddiſh among it: the legs are robuſt and long, and are of the ſame dark olive colour with the beak.

We have this ſpecies in our marſhy places. Aldrovand has deſcribed it under the name of Ardea ſtellaris major ſive rubra; and moſt authors, who have written ſince, have copied the name, though it very ill expreſſes the colouring of the bird.

Ardea ferruginea nigro variegata.
The ferrugineous Ardea, variegated with black. **The Soco.**

This is nearly of the ſize of our common heron, but the body is ſmaller, in proportion to the length of the neck and the legs: the head is large, and of an oblong figure, narroweſt at the front, and broader behind: the beak is five inches long, and of a greeniſh-olive colour; the eyes are large, and their iris yellow, and they have a very piercing aſpect.

The head is of a very deep brown, approaching to black, and has no creſt, and very little of the black variegation: the whole body is of a bright ferrugineous brown, ſpotted in a beautiful manner with black, in ſmall variegations; the back is darker, and has more of theſe; the belly is paler, and has fewer.

The wings are large, and their long feathers are edged with black: the covering ones are of the ſame brown with the body, and ſpotted in the ſame manner: the tail is ſhort, and does not reach beyond the tips of the wings, when they are cloſed: there is a little whiteneſs toward it's baſe, and at the ſides of the belly; otherwiſe the bird is throughout of the ſame brown.

The legs are long, robuſt, and of a blackiſh-olive colour: the toes are long, and the claw of the middle one is ſerrated.

This ſpecies is a native of the Braſils and South America. Marcgrave calls it Soco Braſilienſibus.

Ardea

Ardea cinerea nigro variegata, criſta erecta variegata.
The black and grey Ardea, with an erect, variegated creſt.

The Cocoi.

This is one of the ſtatelieſt and moſt elegant of the whole genus; when it ſtands erect, it is three feet and a half from the feet to the top of the creſt, and it walks in a remarkably erect manner, with the neck elevated to it's whole length: the head is large and round; the eyes are of a very beautiful gold yellow in the iris; the beak is five inches long, and is very robuſt, remarkably thick and large at the baſe, and ſharp at the extremity; and is of a yellowiſh-green at the baſe, but darker toward the point.

The head is of a mixed black and grey; and the creſt, which is large and very beautiful, and naturally ſtands erect, not drooping over the neck, as in our common heron, is of the ſame ſilvery grey, variegated in the moſt elegant manner with black: the neck is white, but it is variegated, on the anterior part, with ſome ſpots of black: the back is alſo of a beautiful grey, variegated in the ſame manner, but leſs elegantly; from the ſhoulders there hang down on each ſide a number of long, ſlender, and very elegant feathers, of a ſnow-white: the breaſt and belly are white.

The legs are long; the upper half of the thighs is covered with whitiſh feathers: the wings are long, and of a mixed black and grey, and the tail is ſimply grey, and is ſo ſhort, that it is not ſeen beyond the tips of the wings, when they are cloſed.

This is a native of the Braſils, and many parts of South America. It frequents watery places, and it's fleſh is eſteemed pleaſant, but it taſtes coarſe to an European palate. The natives call it Cocoi, and Marcgrave deſcribes it under that name.

Ardea fuſco-flava, nigro variegata, pectore albeſcente variegato.
The yellowiſh-brown Ardea, with black variegations, and a whitiſh-ſpotted breaſt.

This is, when it ſtands erect, at leaſt three feet in height: the head is large, rounded, and very well covered with feathers, but it has no creſt: the eyes are large, and their aſpect piercing; the iris is of a gold yellow, the pupil black: the beak is five inches and a half long; the baſe is very thick and yellowiſh, the reſt is brown; and, what is ſingular in a bird of this genus, it is ſerrated half way down on each ſide of either chap; the reſt is ſmooth, and ſharpened at the edge.

The head is of a duſky brown, variegated with black; the neck is alſo of the ſame colour on the outer part, but whitiſh at the throat: the back is of a yellowiſh-brown, elegantly ſpotted with black, and the breaſt and belly are of a whitiſh colour, variegated with yellowiſh: the tail is ſhort, and does not reach beyond the tips of the wings, when they are cloſed: the legs are long, robuſt, and of a deep olive colour, but with a tinge of yellow.

This is a native of the Braſils, but is not common, nor has any name among the natives. Marcgrave, who found it there, has deſcribed it under the name of Ardea Braſilienſis roſtro ſerrato ſtellari ſimilis.

Ardea tota nivea roſtro flavicante.
The ſnow-white Ardea, with a yellow beak.

The Guiratinga.

This is a very elegant bird, and perfectly reſembles the heron-kind, though it is much ſmaller than any other known ſpecies: the head is oblong, rounded, and large, in proportion to the bulk of the bird; it's body is not larger than that of a pullet, but it's neck and legs are very long: the eyes are ſmall, but very bright and piercing in their aſpect; the iris is yellow, the pupil black: the beak is three inches and a half long,

long, and is throughout of a yellow colour, but brighter toward the baſe, and darker at the point.

The whole bird is of a beautiful ſnow-white, but the feathers are particularly elegant toward the baſe of the neck; they are there as ſoft and fine as thoſe of the oſtrich.

The legs are long and yellow; the toes are long, the claws all long and robuſt, and that of the middle toe ſerrated: the wings are long; the tail is ſhort; when they are cloſed, it is not ſeen beyond their tips.

This elegant little bird, for ſuch it is in compariſon of the reſt of the Ardeæ, is a native of the Braſils, and of ſeveral parts of South America. The Braſilians call it Guiratinga; the Portugueſe there, Garza; Marcgrave commemorates both theſe names; and thoſe who have deſcribed it ſince, have copied them from him.

Ardea dorſo nigro, pectore et ventre variegatis.
The Ardea, with a black back, and variegated breaſt and belly.

The dwarf Heron.

This is a bird ſo much out of the common ſize of it's genus, that, unleſs one had ſeen it, it would be hard to credit the writers who firſt deſcribed it. It is a compleat heron, with the body not larger than that of a common wild pigeon: the head is ſmall and rounded; the eyes are ſmall, but very bright and piercing, and their iris yellow: the beak is perfectly of the ſhape of that of the common heron, and is about an inch and three quarters in length; of a browniſh colour on the upper part, and yellowiſh below.

The head is of a very dark and gloſſy hue, a colour and luſtre much reſembling that of poliſhed iron: the neck is very ſlender, and is about five inches in length; it is of a whitiſh colour, variegated with brown and black, and the breaſt and belly are of the ſame colour and variegations: the back is perfectly black; the tail is ſhort, and does not reach beyond the tips of the wings, when they are expanded: the wings are greyiſh, but ſo dark, that they appear at firſt ſight abſolutely black, and the long feathers in them entirely and perfectly ſo.

The legs are ſlender, and are about four inches and a half in length: their colour is of a browniſh-yellow: the toes are long, and the claws oblong and ſharp.

It is a native of the Braſils, but whether it be that it is taken for the young of ſome other ſpecies, or for whatever other reaſon, the natives have no name for it. Marcgrave, who found it there, deſcribes it under the name of Ardeola Braſilienſis.

RECURVIROSTRA.

THE beak of the Recurviroſtra is of a depreſſed or flatted figure, and is pointed at the extremity, and bent or turned upwards.

Recurviroſtra albo nigroque varia.
The variegated, black and white Recurviroſtra.

The Avoſetta.

This is a moſt extreamly ſingular bird; it's ſize is about that of our common lapwing, or a little larger; the weight of a full-grown one is about ten ounces: the head is large and rounded; the eyes are ſmall, but their aſpect is bright and piercing: the beak is of a very ſtrange form; it is very long, and in colour black throughout; it is narrow and flatted, or depreſſed, and appears to be of a coriaceous ſubſtance, rather than of that firm and ſolid matter, of which the beaks of other birds are formed; it

it is turned up in a ſtrange manner toward the extremity, bending into a part of a circle, and is extreamly ſharp at the point, and is there abſolutely membranaceous, though it is no where rigid: the noſtrils are oblong, and are pervious to the light: the tongue is ſhort, and not bifid: the length of the beak, in the whole, is at leaſt equal to three times that of the head.

The colour of the head is black, only the hinder part is paler or greyiſh: the upper part of the neck is alſo greyiſh; the whole body is white, except that the rump, the ſides of the back, and part of the wings are black: the long feathers of the wings have ſome white in them, and this becomes gradually more and more conſpicuous, as they ſhorten inward of the wing, till ſome of the ſhorteſt become properly white, only with a ſpot of black at the extremity: ſome of the covering feathers are totally white, and ſome are ſpotted with black: the wings are moderately long; the tail is very ſhort and white.

The legs are moderately long, and of a bluiſh colour; the toes are oblong, and the feet are palmated; the thighs are naked half the way up.

This is a native of many parts of Europe; it is extreamly common at Venice, and we have it in ſufficient plenty about the weſtern coaſts of England. All the writers on birds have deſcribed it. Geſner calls it Avoſetta, Recurviroſtra; Aldrovand, Avoſetta Italis dicta; Willughby and others, Recurviroſtra, Avoſetta Italorum.

Recurviroſtra pectore croceo.
The Recurviroſtra, with a yellow breaſt.

The Swediſh Woodcock.

This is of the ſize of the common pigeon: it's head is ſmall and perfectly round; the eyes are moderately large, and their iris is of a deep yellow: the beak is long, ſlender, depreſſed, and pointed at the extremity, and toward that part it is a little turned up, but not at all like the other kind; the turning up in this, indeed, is very inconſiderable, but the form and ſtructure of the beak is otherwiſe entirely the ſame.

The head is of a dark iron-grey; the upper part of the neck is alſo of the ſame colour: the whole back, ſhoulders, and upper part of the wings are alſo grey, but not ſo deep as the head and neck; and the breaſt, belly, and thighs of a ſtrong yellow.

The tail is ſhort, and ſcarce appears beyond the tips of the wings; when cloſed, it is of a paler grey than the back, but the rump is darker: the legs are moderately long, ſlender, and black, or of a very deep and duſky brown.

This is a native of England, though none of our writers on birds have chanced to meet with it. I ſhot one laſt year in Lincolnſhire, and was told by the common people they bred there. Rudbeck has called it Scolopax roſtro recurvo, pectore rufeſcente, pedibus nigris; and Linnæus, Recurviroſtra pectore croceo. Theſe are the only writers who have named it; and the latter of them doubts, whether it properly belong to this genus; but it certainly does.

HÆMATOPUS.

THE beak of the Hæmatopus is of a compreſſed form, and terminates in a cuneiform or wedge-like figure; both the upper and the under chaps are equal in length.

Of this genus there is only one known ſpecies.

HÆMATOPUS. The Sea Pye.

This is of the bigneſs of the common magpye; it's length, from the tip of the beak to the extremity of the tail, is about thirteen inches: the head is ſmall and rounded; the eyes are large and bright; their iris is of a bright ſcarlet colour, as are alſo the edges of the eye-lids: the beak is more than an inch in length; it is ſhort, compreſſed, and ſlender; the whole is of a bright and beautiful red colour; the noſtrils are oblong and pervious: the head and neck are of a deep black; the back alſo, to it's middle, is black, and ſo are the wings on the upper part: the breaſt, the belly, and the hinder part of the back are of a bright white; it is this mixture of black and white, together with it's ſize, that has given it the name of the Sea Magpye: the covering feathers of the tail, both above and below, are altogether white: the long feathers of it are white, but variegated with a great deal of black.

The wings are long and large, and the principal feathers are black, but not without ſome variegation of white in ſome part of them: the legs are long; the thighs are naked more than half the way up; the whole naked part of the leg is of a fine bright ſcarlet: the feet are moderately large; the toes long and red, but they are only three, there being no hinder toe.

This is a native of our ſea-coaſts, and in the weſtern parts of England is very common. All the writers on birds have deſcribed it. Bellonius calls it Hæmatopus; Geſner, Himantopus; Bartholine, Pica marina; and moſt of the authors, who have written ſince, have adopted one or other of theſe names. Some have taken two, or all three of them.

ORTYGOMETRA.

THE beak of the Ortygometra is ſhorter than the toes; it is of a compreſſed figure, and terminates in a kind of point; both the chaps are equal in length.

Ortygometra alis fuſco-ferrugineis.
The Ortygometra, with ferrugineous-brown wings.

This is of the ſize of our magpye, and is a ſingular and elegant bird: the head is ſmall and oblong; the eyes are large, and their iris is reddiſh, the pupil black; the beak is ſhort, and faſhioned in ſome degree like that of the common hen: the colour of it is a duſky bluiſh or livid grey, and it is ſinuated on each ſide toward the baſe: the noſtrils are oblong and pervious; the opening of the mouth is wide; the ſwallow is large, and the tongue undivided.

The head, neck, back, and tail are of a bright and elegant brown, variegated in a very beautiful manner with ſpots of black: the real ſtate of the variegation is, that the middle of every feather is black, and it's ſides and end brown: the long feathers of the wings, as alſo thoſe of the tail, are of a ferrugineous-brown both above and below: the throat is of a pale whitiſh-grey, and there is a ſpot of the ſame colour on each ſide of the head, behind the eyes: the breaſt is grey; the belly and ſides are brown, variegated with ſpots of a duſky or brown, and white: the thighs are naked half way up; the upper part is covered with feathers of a mixed grey and brown; the variegations are undulated, and very beautiful: the legs are moderately long, and of a livid or bluiſh colour: the toes are robuſt, and moderately long.

It is not uncommon with us, and is a native alſo of moſt other parts of Europe. It frequents rich paſtures, generally hiding itſelf among the tall graſs, and is not eaſily raiſed. It feeds on worms and other inſects, and makes an odd creaking ſound with it's throat, that often diſcovers it. All the writers on birds have deſcribed it. Moſt of them under the names Ortygometra and Ortygometra altera; Turner calls it Crex Ariſtotelis.

NUMENIUS.

NUMENIUS.

THE beak of the Numenius is of a figure approaching to cylindric; it is obtuſe at the point, and is longer than the toes: the feet have each four toes connected together.

Numenius roſtro arcuato, alis nigris maculis niveis.
The Numenius, with an arcuated beak, and black wings with white ſpots.

The Curlew.

This is a moderately large bird; the weight of a female, tolerably fleſhy one, is near two pounds: the head is ſmall and rounded; the eyes are large and bright; the beak is of a very ſingular figure; it is long, ſlender, bent or arched, and black: the extremity is obtuſe; the noſtrils are oblong; the tongue is very ſhort.

The head, neck, and back are of a variegated mixture of black-grey and brown: the middle of each feather is black, and the edges are grey and brown: the throat and breaſt are variegated with black, white, and a reddiſh-brown: the middle of the feathers is always black, but the edges of thoſe on the throat are of a pale reddiſh-brown, and of thoſe of the breaſt white: the belly is of a pure white; the rump alſo is white, without any variegation: the wings are long, and are variegated with black and white; the covering feathers being many of them wholly white, and the principal of the long feathers black.

It is frequent in watery places with us, and in moſt other parts of Europe, and is every-where eſteemed a delicacy at table. Moſt of the writers on birds have deſcribed it. Aldrovand calls it, ſimply, Numenius; Geſner, Numenius five Arquata; Ray, Numenius five Arquata major; and ſome, ſimply, Arquata. We call it the Curlew, or Curlieu.

Numenius roſtro arcuato, dorſo maculis fuſcis rhomboidalibus variegato.
The arcuated-beaked Numenius, with rhomboidal brown ſpots on the back.

This is of the bigneſs of a tame pigeon, but a bird of a very different form: the head is ſmall and rounded; the eyes are ſmall, but of a very piercing aſpect: the beak is black, and it is ſlender and arcuated in a very remarkable manner.

The head, neck, and breaſt are of a pale brown, marked with longitudinal ſpots of a darker colour, the lower of which are ſinuated as it were: the back is marked with larger ſpots of a very deep brown, and of a rhomboidal figure: the belly is white; the thighs are covered with pale brown, variegated feathers, and behind them there are ſome regular ſpots: the legs are long, ſlender, and of a bluiſh colour; the toes are long and connected.

The wings are long, and ſpread to a great extent, in proportion to the ſize and genus of the bird: the long feathers of them are black; they are twenty-ſix in number, and have ſome variegations of white: the large feathers of the tail are fourteen; they have eight faſciated variegations of a paler and a deeper brown.

This is a native of England, but it is not common; I have only met with it in the northern counties, but I have two or three times ſhot it there, and the country people are well acquainted with it. They call it a Curlew, but are very well apprized of the difference between it, and the bird commonly called ſo. Linnæus, in his account of the animals of Sweden, has named it after Rudbeck, but no other author mentions it.

Numenius capite utrinque linea nigra notato.
The Numenius, with a black line on each ſide the head.

The Woodcock.

The woodcock is a very beautiful, as well as delicate, bird; it is ſomewhat ſmaller than the partridge: the head is moderately large and rounded; the beak is long and ſlender, of a cylindric figure, and obtuſe at the point: it is brown toward the extremity, but paler, and often fleſh-coloured, toward the head: the upper chap is a little longer than the under, but the difference is inconſiderable: the ears are large and open; the eyes ſtand higher up the head than in any other known bird; this ſeems a proviſion of nature, that they may not be injured, while the bird is plunging it's beak, as it frequently does, up to the baſe, in the ſoft and wet ground.

The head has on each ſide an elegant and regular line of black: the upper part of the body is of a mixed colour, mottled with black, grey, and a reddiſh-brown, in a very beautiful variegation: the front of the head is of a greyiſh-brown; the breaſt and belly are of a pale grey, with little tranſverſe lines of a bright brown: the upper part of the throat is of a whitiſh-yellow, and the under ſurface of the tail is alſo ſomewhat yellowiſh: the hinder part of the head is principally black, but there are two or three tranſverſe lines of brown on it.

The long feathers of the wings are twenty-three in each; they are black, but have ſome tranſverſe lines of brown, and the feathers under the wings are beautifully variegated with grey and brown: the tail is ſhort, and conſiſts of twelve feathers, the tips of which are grey on the upper ſide, and white underneath, and their edges are marked with a dentated line of browniſh, the reſt in general black.

The legs are of a pale brown, and the claws are black; the hinder toe is very ſmall: the male is ſomewhat darker than the female in this ſpecies, in it's general colouring.

We have the woodcock in conſiderable plenty in our woods, eſpecially where the ground is damp, the whole winter ſeaſon; early in ſpring they leave us. They fly away in pairs, in order to build; but we ſometimes have ſeen them left here, and they have built and brought up their young. All the writers on birds have mentioned this ſpecies. Geſner calls it Ruſticola ſive Perdix ruſtica major; Aldrovand, Scolopax ſive Perdix ruſtica; Willughby, Scolopax; others, Gallinago major; the general name among the preſent writers is Scolopax.

Numenius urrhopygio albo pedibus vireſcentibus.
The green-legged Numenius, with a white rump.

The great Plover.

This, though honoured with the name of the great Plover, is not a very large bird: the head is round and ſmall; the eyes are ſmall, but of a piercing aſpect: the ears are large and patulous: the beak is more than two inches in length; it is ſlender, and of a cylindric figure, and is black, except toward the baſe, where it is red: the head, neck, ſhoulders, and back are elegantly variegated with greyiſh, browniſh, and whitiſh, but the whole mixture feigns what we call a clouded grey: the edges of the feathers, which cover the top of the head, are white; but the middle part of the ſame feathers is black as jet: the rump is of a ſnow-white, and the whole breaſt and belly are alſo of that elegant colour.

The wings are moderately large; their long feathers are twenty in each, and they are all brown; the five exterior ones are darker than the reſt, and many of them have little ſpots of white irregularly ſcattered over them: the tail is about an inch and three quarters in length, and is very beautiful; it is compoſed of twelve feathers, and is marked with alternate and undulated faſciæ, or tranſverſe bands of white and brown.

The

The legs are extreamly long, and very ſlender; they are naked for more than an inch above the knee, and their colour is greeniſh, but with a tinge of blue among it: the toes are long and ſlender, and the claws are black: the hinder toe is ſhort and inconſiderable, and the outer one is connected by a membrane to the middle one a great way down.

This is a native of England, and of moſt other parts of Europe; and moſt of the authors, who have written on birds, have deſcribed it. Geſner calls it Glottis and Limoſa Veterum; Aldrovand and Willughby, Pluvialis major; Sloane, Glottis ſive Pluvialis major.

Numenius capite quatuor lineis fuſcis notato.
The Numenius, with four brown ſtreaks on the head.

The Snipe.

This is a ſmall but a beautiful and a delicate bird; it's weight is about four ounces; the male is ſomewhat ſmaller, and our ſportſmen diſtinguiſh it under the name of the Jack Snipe, the Gid, and the Jaddock; nor are there wanting authors who have deſcribed it as a different ſpecies.

The head is ſmall and round, and is elegantly variegated by the four longitudinal ſtreaks, which run above and below the eyes, from the front to the back part of it: between the eyes and the roſtrum there is a ſpace of brown juſt under the beak; it is white.

The neck is variegated with brown, and a ferrugineous-reddiſh; the breaſt and belly are whitiſh: the feathers which fall on each ſide from the ſhoulders are very long; they reach almoſt to the inſertion of the tail, and are very beautiful; their middle is black, and their tips and edges of a bright and gloſſy ferrugineous-brown: the feathers which grow on the back are brown, variegated with white, diſpoſed in tranſverſe lines: thoſe which cover the baſe of the tail are brown, and have tranſverſe lines of black.

The wings are not very large; the long feathers are twenty-four in each, and are brown, with more or leſs white on the larger: the tail is ſhort, and it appears indeed ſhorter than it really is, being hid under the feathers which fall over it at the origin: it is compoſed of twelve feathers, variegated with a paler and a deeper brown in alternate bands, and with ſome white toward the tips of ſome of them: the beak is long and ſlender; the legs are greeniſh.

It is a native of moſt parts of Europe, but in many is a bird of paſſage only; it is, in general, ſuch with us; but, as the woodcock will ſometimes ſtay and breed with us, this does ſo much oftener. It is fond of wet places, and it's fleſh is delicate, and much eſteemed at table. All the writers on birds have deſcribed it. Geſner calls it Gallinago ſive Ruſticola minor; Aldrovand, Scolopax ſive Gallinago minor; Willughby, Ray, and others, ſimply, Gallinago minor. When it breeds with us, it builds on the ground by the ſides of brooks, and lays four or five eggs.

Numenius urrhopygio albo, rectricibus nigris baſi albis.
The Numenius, with a white rump, and the tail-feathers black, but white at the baſe.

This is of the bigneſs of a common pigeon: the head is ſmall, oblong, and depreſſed on the crown: the eyes are ſmall, but their aſpect is bright and piercing; the beak is very long, ſlender, and pointed obtuſely; it's colour is black, and the noſtrils are very conſpicuous on it.

The head, neck, and breaſt are of a yellowiſh colour, but variegated in an elegant manner with tranſverſe lines of brown: the belly is white, but it is variegated alſo in

an elegant manner, with ſpots of a yellowiſh-grey: the back is grey, with ſpots of a deeper and a paler brown; the ſides are grey, and are not ſpotted at all.

The wings are moderately large; the long feathers are black, variegated more or leſs with white, but none of them very much ſo: the tail feathers are of a fine, deep, ſhining black, only that they are white at the baſe, and the covering feathers, as well as the rump, are alſo white: the legs are long and ſlender, they are black; the toes are four, they are long and divided; the claws are robuſt.

This is a native of the northern parts of Europe; we have it not in England. Only Linnæus has deſcribed it.

TRINGA.

THE beak of the Tringa is of a cylindric figure, obtuſe at the extremity, and in length about equal to the toes: the feet have each four toes, and they are connected.

Tringa facie granulata, roſtro pedibuſque rubris.
The Tringa, with a granulated face, and with a red beak and legs. **The Ruff.**

This is about the bigneſs of the common jackdaw: the head is moderately large, round, and well covered with feathers, except at the anterior part, where it is naked, but the ſkin is elegantly granulated with ſmall red tubercles diſpoſed regularly and cloſely over it: the eyes are large; their aſpect bright and piercing, and their iris of a bright hazel colour: the beak is moderately long, and obtuſe at the end; it is of a fine bright red at the baſe, ſometimes all over, but uſually it is black toward the extremity: the upper chap is a little longer than the under, and the tongue is extended to the very tip of the beak.

The male has ſuch a variety of colouring, that it is ſcarce poſſible to give any regular deſcription of it; when they are firſt arrived at their full growth, there are no two of them alike, but, after the firſt moulting or caſting of their feathers, they become much more uniform.

The head is of a browniſh-grey, ſpotted with black; the neck is grey; the back and the long feathers which grow from the ſhoulders, and fall down the ſides, are alſo grey, and are variegated with ſpots and clouds of black and of white: the throat is variegated with white and grey; the breaſt and belly are altogether white.

The wings are moderately large; the principal feathers of them are, in general, black, but ſome of the inner ones are variegated with a little white: the covering feathers of the wings are variegated with grey, white, and black: the tail is about an inch an half in length, and is brown, but the extremities of the feathers are whitiſh. Thus far the males and females are alike, except that the females are ſomewhat ſmaller; but the male is diſtinguiſhed by a kind of collar of long and narrow feathers round his neck; this in ſome is white, in ſome black, in ſome yellow, and in others grey, and ſometimes is of a fine ſhining bluiſh-black, and is then moſt elegant of all.

The females of this ſpecies are as peaceable as thoſe of other birds, but the males are eternally fighting; they are fatted up in places cloſed every way from the light, and, while kept thus in the dark, are peaceable enough; but, the moment the light is let in, they all get to fighting, and the battle never ends till one of them is dead. They are frequent in Lincolnſhire, and ſome other of our fen countries; they fly in companies, and are as quarelſome in their wild ſtate, as when kept for feeding. The ſportſmen take the advantage of their fighting to draw their nets over them: they are a very delicious food, and are greatly eſteemed. It is obſerved, that, after the breeding time, the

the males are much more numerous than the females, but that they fight till the additional number is deſtroyed. Moſt of the writers on birds have deſcribed this ſpecies, and all under the ſame name of Avis pugnax, the fighting bird. We call the male the Ruff, and the female the Reeve.

Tringa roſtri apice punctato, dorſo fuſco viridi.
The Tringa, with the tip of the beak punctated, and the back greeniſh.

The Cinclus, or Tringa.

This is of the bigneſs of the common blackbird, or ſomewhat more: the head is round, and ſomewhat depreſſed on the crown; the eyes are large, very bright and piercing in their aſpect, and their iris is of a bright hazel: the beak is almoſt an inch in length; it is ſtraight, ſlender, compreſſed a little at the ſides, and of a greeniſh colour toward the baſe, and black and punctated at the point: the upper chap is a little longer than the under, and the tongue is acute, and not bifid.

The colour of the whole back and covering feathers of the wings is an elegant ſhining green, with a tinge of brown; but the feathers about the ſhoulders, and ſome of thoſe of the wings, are very elegantly dotted, as it were, with white toward their edges: the crown of the head has alſo a great number of theſe ſpots ſo diſpoſed, that they form a kind of ſtreaks: the part about the eyes is white; the throat is white, but there are ſome ſpots of brown on it: the feathers of the middle of the back are darker than the others in their middle, but white at the edges: thoſe which cover the baſe of the tail are of a ſnow-white; the breaſt and belly are alſo throughout of a ſnow-white.

The wings are long, and their principal feathers in general are brown: the tail is ſhort; it is compoſed of twelve feathers; theſe are all nearly of a length: the edges of ſome of them, and a yet greater part of many of the others, is white: the legs are moderately long and greeniſh.

This is a native of moſt of the northern parts of Europe, and uſually flies ſingly, except in the breeding time, when they are always ſeen in pairs. Moſt of the writers on birds have deſcribed it. Bellonius calls it Cinclus; Geſner, Gallinæ genus quod ignoto nomine Sometſhumbe nomino; and, in other places, Rhodopus and Ochropus medius; Aldrovand calls it Gallina Rhodopus ſive Phœnicopus and Tringa; Willughby and others, ſimply, Tringa.

Tringa roſtro lævi, corpore cinereo, lituris nigris, ſubtus albo.
The grey Tringa, ſpotted with black, with a ſmooth beak, and a white belly,

The leſſer Tringa.

This is a little but a very pretty bird; it's weight is no more than two ounces: the head is ſmall, rounded, and a little depreſſed on the crown; the ears are very wide and patulous: the eyes are large and bright, their iris is of a beautiful hazel: the beak is moderately long, and is of a whitiſh colour toward the baſe, and black and ſmooth at the tip.

The head is of a pale browniſh colour, with a tinge of green; the crown eſpecially is variegated with many longitudinal lines of a darker colour: the neck is grey; the back, the ſhoulders, and the covering feathers of the wings are all of an elegant browniſh-green, a very bright colour, with a fine ſilky gloſs, and all variegated with ſhort, tranſverſe lines, of a darker colour: there runs a line of white on each ſide of the head, juſt over the eyes: the breaſt and belly are throughout perfectly white, but the throat is of a ſomewhat browniſh-white, with the ſcapi of the feathers darker than the reſt.

The wings are moderately long, and their principal feathers are of the colour of thoſe of the back, but more or leſs variegated witn white: the legs are moderately long,

long, and are ſlender, and of a pale olive colour; the toes are long, and the claws black, and not very ſhort.

It is a native of moſt parts of the North of Europe; we have it in England, but it is not very frequent with us. It flies ſingly, except at the time of breeding, when they are uſually ſeen in pairs. Moſt of the writers on birds have deſcribed it. Geſner calls it Gallinula aquatica hypoleucos, and, in another place, he makes it a Motacilla; Aldrovand calls it Gallinula hypoleucos; Willughby and Ray, Tringa minor; the Italians call it Becaſſine; and our people in Yorkſhire, and ſome other places, the Sandpiper.

Tringa criſta dependente, pectore nigro.
The black-breaſted Tringa, with a hanging creſt.

The Lapwing.

Were this ſpecies leſs common among us, it would be greatly eſteemed for it's beauty; it is about the ſize of the commom pigeon: the head is ſmall, but very beautiful; a little depreſſed on the crown, but not at all at the ſides: the eyes are bright and piercing, but they are not large; the beak is moderately long, and the noſtrils are very conſpicuous in it.

The head is very elegantly variegated; the ſides of it are white, but there runs a black line along them by the eyes to the very hinder part of the head, and the hinder part of it is ornamented with a beautiful creſt, compoſed of twenty long and ſlender feathers, and hanging over the hinder part of the neck: the whole throat, to the breaſt, is of a coal-black; the lower part of the breaſt, and the whole belly, are white: the back, and the long feathers of the ſhoulders, which fall down along the ſides, are all of a beautiful ſhining green; and on each ſide, near the wings, there is an elegant ſpot of purple: the legs are long, ſlender, and red, ſometimes brown; the hinder toe is very inconſiderable, the others are moderately long; the outer toe of each foot is connected by a membrane to the middle one, for a conſiderable way.

This is very frequent in our fen countries, and the wet places in moſt other parts of Europe. All the writers on birds have deſcribed it. Bellonius calls it Capra, Capellus, and Vanellus; Geſner, Vanellus; Aldrovand, Capella ſive Vanellus; and moſt others have continued thoſe names.

Tringa roſtro nigro, baſi rubra, pedibus coccineis.
The red-legged Tringa, with a black beak red at the baſe.

The Totanus, or Godwit.

This is about the ſize of the fieldfare, and is eſteemed a delicate bird at our tables: the head is ſmall and flatted on the crown: the eyes are remarkably ſmall, but they have a very piercing aſpect; the ears are open and large, and the beak is moderately long, ſmooth, thickeſt at the baſe, and ſmaller all the way to the extremity; ſmooth all over, and red toward it's inſertion at the head, but black every-where elſe.

The head is of a deep iron grey, ſpotted irregularly with black; the back, ſhoulders, ſides, and upper part of the wings, are alſo of the ſame colour, and variegated in the ſame manner: the breaſt is white, but variegated with ſpots of black; the belly is of a pure white, without any variegation: the legs are moderately long; they are ſlender, and of a bright red: the toes are long, ſlender, and red, and the claws black.

We have this in England, and it is common alſo to moſt other parts of Europe. The authors who have written on birds have all deſcribed it, and almoſt univerſally, under the ſame name Totanus.

Tringa



The Stork



The Heron



The Little Heron



The Black Stork



The Recurvirostra



The Crane



The Balearic Crane



The Bittern



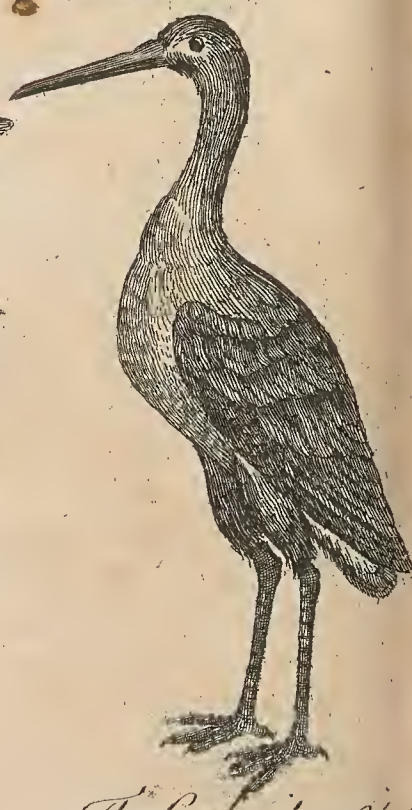
The Woodcock



The Snipe



The Curlew



The Godwit



The Ruff



The Lesser Tringa



The Lapwing

12. Cole Sculp.

Tringa cinerea alis albo variegatis.
The grey Tringa, with the wings ſpotted with white. **Canuti avis.**

This is of about the ſize of the ſtarling, or ſomewhat leſs: the head is ſmall, oval, flatted, and compreſſed at the ſides: the eyes are ſmall, their iris hazel; the ears are patulous; the beak moderately long, and of a duſky colour; the tongue has eight denticulations near it's baſe, and there are alſo a number of others in the opening of the mouth, all pointing inwards: the head, the neck, and the back are of a very deep, duſky, and mixed colour, undulated with black, brown, and grey: the whole breaſt, belly, and throat are white, without any variegation: the wings are large; their long feathers are twenty in each, and they are of the colour of the back, but variegated elegantly with ſpots and lines of white.

The tail is moderately long, and is variegated with black and white.

We have this in the fens in the iſle of Ely, and it is common to many other parts of Europe, yet it has been little known to the writers on birds. It lives about waters, and runs very ſwiftly, uſually moving it's tail all the time, in the manner of the wag-tail.

Tringa remigibus fuſcis prima rachi nivea.
The Tringa, with the wing feathers brown, the firſt rib white.

This is of the ſize of the common black-bird: the head is large, compreſſed at the ſides, and rounded at the top: the eyes are moderately large; their iris is of a hazel colour, with ſome tinge of the orange: the beak is moderately long, largeſt at the baſe, obtuſe at the extremity, and all the way black, except for ſome whitiſhneſs toward the baſe of the lower chap: the back is brown, with deep duſky ſpots of a ferrugineous hue, approaching to black: the rump is white, but the feathers which compoſe it have ſome blackneſs toward their baſe: the breaſt and belly are white.

The wings are in general of the ſame colour with the back, and are ſpotted in the ſame manner; but the principal feathers are brown, and the middle rib of the firſt white, and there are ſome other variegations of white, eſpecially about their tips: the tail is moderately long, and is variegated with white and brown, diſpoſed in an undulatory manner; the outer feathers are indeed principally white: the legs are long, ſlender, and brown.

This is frequent in Sweden, and in ſome of the northern parts of Europe; it ſometimes is found in England, but not in any degree of plenty, nor does it ſtay the year.

Tringa nigra albo punctata, pedibus vireſcentibus.
The black Tringa, ſpotted with white and with green legs.

This is of the ſize of the common black-bird: the head is ſmall, and compreſſed a little at the ſides, but not flatted on the crown; the beak is moderately long and obtuſe: the head, neck, back, and wings are black, ſpotted with white: the breaſt is of a whitiſh colour, but ſpotted with black; the belly is entirely white.

The wings are long, and the principal feathers black, but many of them white at the edges and tips: the tail is moderately long, and of a variegated colouring; the black and white being laid, in an undulatory manner, one over another: the legs are moderately long, very ſlender, and of a bright olive or greeniſh colour: the toes are ſlender, long, and green.

It is frequent in many of the northern parts of Europe, but we have it not in England.

Tringa luteo cinereoque maculata, pedibus rubris.
The red-legged Tringa, ſpotted with yellow and grey.

This is about the bigneſs of the fieldfare: the head is ſmall and rounded; the ears are large and patulous; the eyes are ſmall, but their aſpect is bright and piercing, and their iris of a hazel colour: the beak is moderately long, obtuſe, and throughout of a red colour: the baſe brighter; the extremity darker than the reſt.

The head is of a bright grey, variegated with ſtreaks and clouds of a tawny yellowiſh; the back, ſides, ſhoulders, and coverings of the wings are mottled in a very agreeable manner, with grey and black: the breaſt and belly are white, but not perfectly or purely ſo: the anterior part of the breaſt, in particular, is variegated with tawny ſpots: the wings are large, and their long feathers are of a deep colour, but not without variegations; the tail is ſhort and grey, but alſo clouded.

The legs are long, ſlender, and throughout of a bright red; the toes long, and the claws obtuſe: the hinder toe is inconſiderable, but it has it's claws like the reſt, and black.

This is a native of the northern parts of Europe, but not, that I have diſcovered, of England. I have received ſpecimens of it from Denmark. Few of the writers on birds have deſcribed it.

Tringa nigro ferrugineo et albo variegata.
The black, brown, and white mottled Tringa. **The Tolk.**

This is of the bigneſs of the thruſh: the head is ſmall and rounded, but a little flatted on the crown: the ears are broad and patulous; the eyes ſmall, piercing in their aſpect, and their iris is orange-coloured: the beak is ſhort, obtuſe at the point, and black; the noſtrils are oblong and pervious.

The head is white, variegated with a great many large ſpots of grey: the neck, ſhoulders, and back are mottled in a very elegant, though perfectly irregular, manner, with grey, white, and a ferrugineous colour; the grey is ſo very deep, that it appears at a little diſtance quite black: the wings are long; the principal feathers are black, except that they have ſome whiteneſs toward the baſe: the tail is ſhort, and it's feathers are white both at their baſe, and at the extremity, except only the two middle ones.

The legs are long, ſlender, and red; the thighs are naked half the way up: the toes are four; they are moderately long, divided, and each armed with an obtuſe black claw.

This is a native of moſt of the northern parts of Europe. We have it in the fens of Lincolnſhire, and ſome other parts of England; but it has been overlooked by the writers on birds, though the country people in theſe places are well acquainted with it.

Tringa nigro-fuſca roſtro nigro, pedibus vireſcentibus.
The blackiſh-brown Tringa, with a black beak, and green legs. **The grey Plover.**

This is a beautiful bird: the head is ſmall, and ſomewhat depreſſed on the crown; the ears are not very patulous: the eyes are ſmall, and their iris hazel; the beak is moderately long, large at the baſe, obtuſe at the point, and black; the noſtrils are oblong and conſpicuous, and the opening of the mouth is large.

The head is of a deep iron grey, with a tinge of brown, and it is ſpotted with ſmall, but very numerous, ſpots of black: the neck is of the ſame colour, with the ſame

ſame variegations; but the ſhoulders and back, as alſo the covering feathers of the rump and tail, are of a deep duſky brown, almoſt black; and ſcarce at all variegated: the breaſt and belly are white.

The long feathers of the wings are twenty-four in each; they are of a deep brown, approaching to black, but more or leſs variegated with white, eſpecially about the edges, near the extremities; the covering feathers of the upper part of the wings have alſo ſome tranſverſe variegations.

The tail is moderately long, and conſiſts of twelve feathers; they are of a deep blackiſh-brown, but variegated with tranſverſe ſtreaks of white, narrow, and placed at a diſtance from one another, except on the two middle ones, where they are broader, and ſtand nearer: the lower part of the back is blacker than any other portion of the body, but the rump itſelf is white, like the breaſt and belly.

The legs are long, ſlender, and greeniſh; the toes are long and ſlender, and are tranſverſely cut in form of the bodies of ſome of the inſects; the claws are obtuſe and black.

This is found in moſt of the northern parts of Europe, and has been deſcribed by many, though not all the writers on birds. Ray and others call it Pluvialis cinerea.

CHARADRIUS.

THE beak of the Charadrius is of a figure approaching to cylindric, and is obtuſe at the extremity, and ſhort: the feet have only three toes, and thoſe are connected.

Charadrius nigro luteſcenteque variegato.
The variegated black and yellowiſh Charadrius.
The green Plover.

This is of the bigneſs of the common lapwing: the head is large and rounded; the eyes are large, and of a very lovely aſpect; the beak is ſhort, but it is robuſt, ſtraight all the way, furrowed about the noſtrils, and black: the neck is ſhort, and the body ſlender: the head, neck, back, breaſt, and belly are all of the ſame colour, only that the breaſt is paleſt; this, at a diſtance, appears of a kind of green, and thence the bird has been named, but in reality it is a compleat variegation of black and yellow: the ground colour is black, the other has the variegation; the middle of every feather is of the firſt colour, the other is ſprinkled and lineated about the edges: the colour on the breaſt, where it is paler, ſhews more of the green: the wings are long, and their principal feathers are variegated more or leſs with white, though the ground colour is the ſame in them all: the tail is ſhort; it conſiſts of twelve feathers of the ſame colour with thoſe of the back, and, when it is expanded, is round at the extremity: the legs are long and ſlender, and are naked above the knees, though they are black; the toes are three; they are moderately long, and the claws are black.

This is frequent in our fen countries, and is eſteemed a very delicate bird at the table. All the writers on birds have deſcribed it. Ray calls it Pluvialis viridis, and almoſt all the other writers among the moderns uſe the ſame name.

Charadrius nigro luteſcenteque variegatus pectore nigro.
The black-breaſted, variegated Charadrius.

This is of the ſize of a pigeon: the head is large; the eyes are ſmall, but piercing; the beak is ſhort, obtuſe, and robuſt: the head, neck, back, and wings are nearly of the ſame variegated colour with thoſe of the grey plover, but the breaſt in this ſpecies is black; and on the back there is ſome white in the variegation, that is wanting in that of the other: the wings are large, and their long feathers are black, with but little

little variegation: the tail is ſhort; it conſiſts of ten feathers, and they are black, but variegated with tranſverſe lines of yellow: the legs are long and ſlender; the thighs are covered more than half way down toward the knee, and the feathers of their upper part are white.

This is a native of many of the northern parts of Europe, but we have it not in England.

Charadrius pectore ferrugineo, torque albente.
The Charadrius, with a ferrugineous breaſt, and a white ring round the neck.

This is of the bigneſs of our jackdaw: the head is ſmall, and flatted on the crown; the eyes are ſmall, and the beak is ſhort, ſtraight, obtuſe, and black: the head, neck, and back are of a pale grey; the breaſt is of a reddiſh-brown, a bright ferrugineous tinge: the belly is black; there is a ſort of ring of white at the bottom of the neck, and a double line of white and black between the breaſt and belly: the legs are long, ſlender, and black.

It is common in many parts of Europe, but we have it not in England. Few of the writers on birds have mentioned it. Albin calls it Morinellus, as have alſo ſome others.

Charadrius fronte nigricante, lineola alba.
The Charadrius, with a black front, and a white line on it.

The Sea-lark.

This is a very ſingular and a very pretty bird; it is about the ſize of the common lark, or, if any thing, a little larger: the head is large and rounded, and is very elegantly variegated with black and white: a black ſpace appearing at the baſe of the beak, and continuing itſelf along on each ſide, and a white one running from the interior corner of one of the eyes to the interior corner of the other: the hinder part of the head is grey; the neck alſo is grey, but it has two ſtreaks ſurrounding it in form of collars; the one white, and the other black: the back and the covering of the wings are of a pale grey; the breaſt and belly are white.

It is frequent about our coaſts, and in moſt other parts of Europe. All the writers on birds have deſcribed it. Jonſton calls it Charadrius; Aldrovand, Charadrius ſive Hiaticula; Marcgrave, Mutuiti Braſilienſibus, for it is common to that diſtant part of the world.

Charadrius abdomine rufeſcente pectore cinereo.
The grey-breaſted and reddiſh-bellied Charadrius.

This is of the bigneſs of the common fieldfare: the head is large; the eyes ſmall, and the beak ſhort, obtuſe, and black: the whole upper ſurface is of a duſky grey, ſpotted with a reddiſh-brown; the breaſt is of a bright and beautiful grey; the belly is reddiſh: the legs are long, ſlender, and grey.

It is a native of Sweden and Denmark, but we have it not in England, nor have any of the writers on birds mentioned it. Linnæus, in his Fauna Suevica, deſcribes it; and we have had ſpecimens ſent over into England, which prove his accuracy in his deſcription.

BIRDS.

Claſs the Fifth.

GALLINÆ.

THE beak of the Gallinaceous tribe is conic, and ſomewhat incurvated, and the upper chap is imbricated. This claſs comprehends the oſtrich and caſſowary.

STRUTHIO.

THE feet of the Struthio have only two toes to each, and thoſe are both placed forward; and the head is ſimple, or not ornamented with the appendages, which are common to many of this claſs. Of this genus there is but one known ſpecies, which is the common oſtrich.

STRUTHIO. The Oſtrich.

This is the talleſt of all the bird-kind; when it ſtands erect, and ſtretches it's head to the height, it meaſures between ſeven and eight feet from the ground: the head is ſmall, in proportion to the body, and is flatted, and in form ſomewhat like that of the gooſe: the beak is alſo compreſſed, and of a ſomewhat triangulated form; it is ſmall, in proportion to the ſize of the bird, and is of a horn colour, and black at the extremity: the ſkin of it terminates in a ſort of ſemicircle at the noſtrils; the opening of the mouth is large, and is extended nearly to the eyes: the eyes are large, and iris is of a hazel colour.

The head and neck, down to the breaſt, or nearly ſo, are in a manner naked; they are covered with a looſe and ſcattered matter, of a downy or hairy nature, in the place of feathers: the legs, and the part of the body that is under the wings, are altogether naked: the lower part of the neck, where the plumage begins, is white: the wings are ſmall, and ſerve only to aſſiſt the creature in it's running, for they are not calculated for flying, as thoſe of other birds.

The body is not large, in proportion to the length of the neck and legs; the feathers which cover the back are of a darker colour in the male than in the female, in which ſex they are only of a deep brown, in the male quite black: they are very ſoft, and reſemble a kind of wool rather than feathers: the feathers of the wings are of the ſame colour, only on the upper part they are white as ſnow: the tail is of a cluſtered ſtructure, and in ſhape round, not ſpread out with breadth as in all other birds; the feathers of which it is compoſed are white in the male, but in the female they are browniſh, but with the tips white; theſe are the feathers ſo greatly eſteemed.

The legs are very long, very robuſt, and naked; the ſtructure of the foot, having only two toes, is very particular: the claws are very robuſt and large.

It is a native of Arabia, and other parts of the Eaſt, and is often ſeen in ſuch numbers together in thoſe places, that they have the appearance of an army drawn up in order of battle. All the authors who have written on this ſubject have deſcribed it, and all under the names of Struthio and Struthio-camelus.

CASUARIUS.

THE feet of the Caſuarius have each three toes, and theſe are all placed forward: the head is ornamented with a kind of naked comb. Of this genus alſo there is only one known ſpecies.

CASUARIUS. The Caſſowary.

This bird, when it ſtands erect, is about four feet and a half high, and is more ſingular in it's appearance even than the oſtrich: it appears at firſt ſight to be covered with hair rather than feathers; and, though it's legs and neck are long, they are leſs ſo than in that bird: the body alſo is larger, in proportion, than in the oſtrich, and the whole bird more robuſt.

The head is ſmall, and is ornamented with a kind of comb or creſt, not fleſhy as in the cock, but bony, hard, and of a reddiſh colour; two inches and a half in height, and conſiderably thick: the ears are large, and are ſurrounded with a kind of briſtles; the eyes are very large, and of a remarkably fiery and fierce aſpect: the beak is moderately large, broad at the baſe, and ſmaller, and ſomewhat hooked toward the point.

The head and neck are almoſt naked; they are beſet with a number of coarſe, large hairs, of a black colour, reſembling briſtles; but the colour of the ſkin is eaſily ſeen through theſe, and is bluiſh, excepting only on the hinder ſide of the lower part of the neck, where it is red: on the anterior part there hang two lobes of a fleſhy ſubſtance over the breaſt: the opening of the mouth is very wide, extending in the manner of that of the oſtrich, much beyond the baſe of the beak, it's angles running up almoſt to the eyes.

The body is large and thick; it is covered with a very ſtrange and ſingular kind of plumage, of a very dark brown colour, approaching to black, and having, when ſeen at any diſtance, the appearance of hairs rather than of feathers; when nearly examined, they are found, however, to be genuine feathers, two growing always together, and their ſtructure very elegant; they are very long, and extreamly narrow, and, when taken off from of the bird, do not ſupport themſelves erect.

The wings are ſtill ſmaller, and more imperfect than in the oſtrich; they have, indeed, more of the appearance of rudiments of wings, than of any thing that can be regularly called by that name: each of them has five quills only, which have more of the appearance of the armature of the porcupine, than of any part of the plumage of a bird.

The legs are long, and very robuſt; and the toes of each foot three, and very thick and ſtrong.

It is a native both of the Eaſt and Weſt Indies; and all the writers on birds have deſcribed it. Aldrovand calls it Emeu ſive Eme; Boulius, Emeu vulgo Caſoarius; and others, Caſſuarius.

OTIS.

THE feet of the Otis are each compoſed of three toes, all turned forward: the head is naked, or has no comb. There is but one known ſpecies of this genus, and that has been confounded, by thoſe who had no regard to the characteriſtic of the genera, with the common turky.

OTIS. The Buſtard.

This is a bird more nearly allied to the oſtrich and caſſowary-kind than people are aware, and like them it runs at a prodigious rate, and but rarely riſes on the wing; it is of the ſize of the common peacock: the head is large, and is well covered with feathers, but it has no comb: the eyes are large, and of a very piercing aſpect: the beak is ſhort, but very robuſt; it is exactly of the form of that of the common turky, thick at the baſe, and pointed and hooked at the extremity: the neck is of no remarkable length.

The

The head and neck are of a very bright and beautiful grey colour; the back is of the ſame colour for the ground, but it is very beautifully variegated with tranſverſe ſtreaks of brown, and of black: the wings are ſmall, in proportion to the bulk of the body, and their principal uſe to the creature is to aſſiſt it in running: the legs are robuſt, but not remarkably long; the toes are three, and all placed forward; the claws are ſhort, but they are thick and black.

We have this bird in many parts of England, where it feeds on vegetables, and on corn, when it can get at it. I have ſeen great numbers of them on the downs in Suſſex; they run away at the approach of men, but rarely, and indeed difficultly, take wing. They are often taken by greyhounds in a fair courſe, in the manner of a hare. Their fleſh is very well-taſted. All the writers on birds have named this under the names of Otis, Otus, and Avis tarda.

P A V O.

THE feet of the Pavo have each four toes: the head is ornamented with a creſt of feathers.

Pavo cauda longa.
The Pavo, with a long tail. **The Peacock.**

The male of this ſpecies is the moſt ſpecious and handſome of all the bird-kind: the body is large; the neck and legs are moderately, but not remarkably, long; the tail is more conſiderable, both in length and ſtructure, than that of any other bird.

The head is ſmall, and of a greeniſh colour, but variegated on each ſide with two white ſpots and a black one, and ornamented on the top with a creſt of feathers erect, and of a moſt elegant as well as ſingular ſtructure: the whole neck is of a beautiful deep changeable green, and is ſlender, in proportion to the ſize of the body: the back is of a pale bright grey, variegated with tranſverſe ſpots of black: the wings are of a dark grey, approaching to black: the length and beauty of the tail, and the various forms in which the creature carries it, are ſufficiently known and admired.

The legs are of a greyiſh colour, robuſt, and moderately long; the toes three before, and one behind: the fleſh is coarſe and ill-taſted, but it is eaten in ſome places, and is ſingular in keeping a long while without putrefaction, when it has been boiled.

It is a native of the Eaſt, but is common in all parts of Europe kept tame; and all the writers on birds have deſcribed it.

Pavo dorſo griſeo, pectore nigreſcente.
The Pavo, with a grey back, and black breaſt.

This is of the ſize of the common peacock, and reſembles it in form, but it wants the ſingular ornament of it's tail: the head is ſmall, and of a pale grey colour, without any variegation, excepting a ſmall ſpot under the eye on each ſide: the neck is ſlender, and moderately long; the back is of a pale grey, variegated with undulated, diſtant, and narrow lines of brown, in a tranſverſe direction: the breaſt is black, the belly a reddiſh-brown.

The tail is ſhort and inconſiderable; the wings are conſiderably long, and their principal feathers are black: the legs are robuſt and black; the toes are four, and they are long, thick, and armed with ſharp claws.

This is a native of the Eaſt, but is kept as a curioſity in ſome places. Few of the writers on birds have been acquainted with it.

Pavo griſeus corona aurea.
The grey Pavo, with a golden creſt.

This is a very beautiful ſpecies: the body is of the bulk of that of our ordinary peacock, but the neck is ſhorter and thicker: the head is ſmall, and of an oblong form; the beak is ſhort, robuſt, and a little hooked at the point: the crown of the head is ornamented with a fine downy creſt, of an orange yellow, though with leſs of the reddiſh tinge in it, than we uſually expreſs by that phraſe: the eyes are large and piercing, and the opening of the mouth is much larger than would be conceived from the length of the beak, but it's angles reach very nearly to the eyes: the back is of a duſky grey, with a tinge of brown: the wings are moderately long, and their principal feathers are black, with very little variegation: the tail is long and beautiful; the legs are robuſt and grey.

It is a native of the Eaſt; few of the writers on birds have deſcribed it. The Baleario crane, referred by Linnæus and ſome others to this genus, is deſcribed among the Ardeæ.

C R A X.

THE feet of the Crax have each four toes: the head is ornamented with a feathered creſt.

Crax niger corolla albo nigroque varia.
The black Crax, with a black and white creſt.

The Indian Cock.

This is a ſtately and elegant bird: the head is large, and well covered with feathers; the eyes are large, and very bright and piercing; the apertures of the ears patulous and broad: the beak is ſhort, but very robuſt, thick at the baſe, and pointed at the extremity, and there a little hooked: on the top of the head there ſtands a very elegant creſt of mottled black and white feathers, which is not erect but revolute: the neck is ſhort, but thick; the body corpulent: the colour of the whole bird is black; the wings are moderately large, and their principal feathers are blackeſt of all: the legs are robuſt, but not very long; they are of a very deep grey, approaching to black: the toes are long and robuſt; the claws thick, but ſhort and obtuſe, and of a deep black.

This is a native of the Eaſt, and of many parts of America. Sir Hans Sloane calls it Gallus Indicus; and the French writers have named it, as if from him, Coq. Indein.

Crax niger corolla atra, roſtro rubro.
The black Crax, with a black creſt, and a red beak.

The black, crowned, Indian Cock.

This is a large and majeſtic bird, and is not without it's beauty, though of one ſimple colour: the head is large, and ſomewhat depreſſed on the crown: the eyes are large and bright; the ears patulous, and ſurrounded with a double ſeries of ſhort and ſemi-erect feathers: the beak is ſhort, robuſt, formed exactly like that of the common cock, but of a ſcarlet colour: the creſt is moderately large, revolute, and of a deep and gloſſy black, as is alſo the whole bird.

The wings are ſhort, and the tail is not ſo long as in the former ſpecies: the legs are very robuſt, and of a deep colour; the toes long, and armed with large black claws.

This

This is a native of many parts of America. Few of the authors who have written of birds have been acquainted with it.

Crax punctulatus corolla atra, roſtro fulvo.
The ſpotted Crax, with a black corolla, and a brown beak.

This is a more beautiful ſpecies than either of the preceding: the head is large, and depreſſed at the front, but elevated toward the hinder part, and there ornamented with a large and beautiful creſt of a deep gloſſy black, long and revolute: the eyes are large, and their iris is of a ſtrong orange colour: the beak is ſhort, robuſt, and of a browniſh-yellow; the point of it is very ſharp, and it is more hooked than in any of the other ſpecies: the neck, back, breaſt, and, indeed, every part of the bird is black, ſpotted in an irregular manner with little ſpecks of white; theſe are more numerous on the breaſt than in any other part, and are no where ſo large as on the upper part of the wings: the legs are robuſt, moderately long, and of a duſky yellowiſh colour; the toes are long and robuſt, and the claws are long and black.

This is a native of Domingo, and ſome other of the American iſlands; it is not found on the continent. Few of the writers on birds ſeems acquainted with it.

MELEAGRIS.

THE anterior part of the head of the Meleagris is covered with a fleſhy, pendulous ſubſtance: the ſides of the head alſo and the throat are covered with a papillous fleſhy matter; and there is alſo a longitudinal fleſhy creſt, of a reddiſh, bluiſh, or purpliſh colour, and a ſoft ſubſtance. Of this genus there is but one known ſpecies.

MELEAGRIS. The Turkey.

This is a large but an unweildy bird: the head is large, and is ſtrangely covered and ornamented with a pendulous, ſoft, fleſhy ſubſtance, of a ſcarlet colour, but varying with blue and purple, and many other changeable colours, and in ſome degree alſo altering it's form according to the pleaſure, or as influenced by the paſſions, of the creature: the eyes are ſmall, but bright and piercing; the apertures of the ears leſs patulous than in many others.

The wings are moderately long, though not at all formed for ſupporting ſo large a bulk in long flights; they have each twenty-eight long feathers: the tail is long and large, and the creature has a power of erecting and ſpreading it in a beautiful manner: the legs are moderately long, and very robuſt.

It is a native of North America, where it is always, without variation, black throughout; with us it is frequently grey, and of other colours: we keep it for the ſake of it's fleſh. Moſt of the writers on birds have deſcribed it. They call it Gallo-pavo, Meleagris, and Numidica avis.

GALLUS.

THE front of the head in the Gallus is ornamented with a longitudinal fleſhy creſt or comb: the wattles on the throat are two; they alſo are longitudinal and fleſhy.

Gallus cauda compreſſa aſcendente.
The Gallus, with a compreſſed aſcendent tail. The Cock.

The common domeſtic cock, in his natural ſtate, is a very robuſt and beautiful bird: the body is large and fleſhy; the head ſmall, and the legs remarkably robuſt:

the head is compreſſed and oblong; the eyes are ſmall, but lively and piercing in their aſpect: the creſt or comb on the crown is oblong, tall, thin, erect, and dentated at the edge: the back is of a pale browniſh-yellow; the neck is of a ſomewhat paler colour, but of the ſame kind: the wings are variegated with the ſame tawny colour and black, and ſo is the tail: the legs are brown, and are armed behind with long, ſtrong, bony ſpurs, turning up, and very ſharp-pointed.

This is the form and colouring of the cock in his wild ſtate; with us the variegations in colour are endleſs, and thoſe in the form and diſpoſition of the feathers, and in the ſtructure of the comb are as various. Theſe have, by the leſs ſcientific authors, been underſtood as ſpecific diſtinctions; and hence in the common way, from this ſingle ſpecies, have ariſen thoſe imaginary ones, diſtinguiſhed by the names of the Feather-topped fowl, the Rumpleſs fowl, the Frieſland hen; and from hence alone thoſe of the Bantam fowl, and the like. Theſe are barely varieties; the common dunghil cock is the ſingle ſpecies, and theſe are produced and farther varied by accidents and mixed breeds, as our variety of auricula's from the ſeeds of the ſimple and original kind.

PHASIANUS.

THE area or ſpace about the eyes in the Phaſianus is naked; it has no wattles.

Phaſianus pectore nigro purpuraſcente.
The blackiſh purple-breaſted Phaſianus.

The Pheaſant.

The pheaſant differs more in bulk and weight, according to the plenty or ſcarcity of food which it has met with, than almoſt any bird; when in good condition, it is little leſs than a common unfatted fowl: the head is ſmall; the ears are patulous, and very obviouſly diſtinguiſhed: the eyes are remarkably bright and piercing; their iris is of a bright and elegant yellow, and they are ſurrounded with a naked ſpace of a fine ſcarlet colour, which gives a great beauty to the bird: the beak is not very long, but robuſt, and reſembles that of the common fowl; there are two fleſhy tubercles toward it's baſe, under which the noſtrils are hid: the ſides of the head are blackiſh; the top of it, and part of the neck in the male, are of a fine gloſſy and changeable green; but this is paler on the head than on the neck: the feathers near the ears are long and elevated, and form what the old naturaliſts call the ears of the pheaſant; a purple colour is ſeen on the throat, and at the ſides of the neck; but all theſe tinges, though very bright, are changeable, and hardly inherent in the feathers.

The lower part of the neck, the ſhoulders, the middle of the back, and the breaſt are covered with elegant feathers of a blackiſh or purpliſh tinge, as ſeen in various lights: the tail is long, and compoſed of few feathers; the wings are but ſhort, in proportion to the bulk of the body, but they are beautifully variegated; the legs are robuſt, and of a pale colour.

This valuable bird would be very common in our woods, if it were not ſo univerſally the delight of the ſportſman and of the table. All the authors who have written on birds have deſcribed it, and all under the ſame general name Phaſianus.

Phaſianus pectore coccineo.
The ſcarlet-breaſted Phaſianus.

The red Pheaſant.

This is nearly of the ſize of the common pheaſant: the head is larger, in proportion to the body; the eyes are very bright, and their iris is of a fine ſtrong orange colour; they are ſurrounded by a naked ſkin, not ſcarlet, as in the former ſpecies, but of a deep fir colour: the top of the head is of a deep cheſnut; the neck has a changeable glow of a deep blue, a deep green, and a very ſtrong blackiſh-purple: the back is of a fine, bright, ferrugineous tinge, with a glow of purple; the feathers are all very

very gloſſy: the breaſt is of a high ſcarlet, and the belly red, but not ſo bright: the tail is long and compreſſed; the legs are robuſt and yellow; the toes are very long and ſtrong, and the claws ſharp: the ſpur behind the leg is often very long, pointed, and horny.

This is a native of many parts of Europe, but we have it not wild in England; in Italy it is common.

Phaſianus ſplendidiſſimè variegatus cauda longiore.
The long-tailed, elegantly variegated Phaſianus.

The Eaſt Indian Pheaſant.

The two preceding ſpecies are extreamly beautiful, but this is vaſtly more ſo than either. Indeed, words cannot deſcribe adequately the luſtre of it's colouring; nor, if they could, would any one believe them, who had not the atteſtation of his eye-ſight: the head is ſmall, depreſſed, and a little prominent at the ſides: the ears are elegantly plumed; the eyes are large, and their iris is of a fine fiery red colour: the beak is half an inch long, robuſt, a little hooked, pointed, and of a pale colour: the whole body, wings, tail, and head are variegated with a profuſion of the brighteſt colours, yellow, red, bluiſh-green, and almoſt every other tinge, varying in different lights, and all having the luſtre of gems: the wings are ſhort, but the tail is longer than in the common pheaſant: the legs are robuſt, and of a pale colour.

It is a native of the Eaſt Indies, and is ſometimes brought over to us.

TETRAO.

THE part of the head that is over the eyes in the Tetrao, is naked and papilloſe.

Tetrao alarum baſi macula alba inſignita.
The Tetrao, with a white ſpot on the baſe of the wing.

The Cock of the Wood.

This is a very large and noble bird; it is nearly of the bigneſs of the turkey, and much reſembles it in figure, only that it is not ſo unweildy: the head is large and rounded; the beak is ſhort, robuſt, a little hooked, and ſharp at the point: the eyes are large, and their iris is hazel; there is a naked ſpace over them, by way of eye-brow, which is of a fine bright ſcarlet.

The breaſt is of a pale reddiſh-brown, variegated with tranſverſe lines of black, and ornamented with a little white, diſpoſed principally about the tips of the feathers; the belly is grey: the back is variegated with black, grey, and a reddiſh-brown; and the head is of a purer black, but with an admixture of a purpliſh gloſs.

The legs are ſhort and robuſt, and are naked behind; but on the anterior part they are feathered nearly to the toes: the long feathers of the wings are twenty-ſix in each: the wings are moderately long, but the tail is ſhort.

This ſpecies is a native of many parts of Europe; we have it not in England, but it is ſometimes met with in Scotland and Ireland. All the writers on birds have deſcribed it. Geſner calls it Urogallus and Grygallus, diſtinguiſhing the male and female; others Urogallus ſive Tetrao major.

Tetrao alis albo variegatis, cauda bifurca.
The forked-tailed Tetrao, with variegated wings.

The Growſe.

This is a noble and valuable bird, though much inferior to the former; it is of the bigneſs of a well-grown fowl: the head is large, and the eyes bright and piercing; the ears

ears are patulous: the beak is three quarters of an inch long, and of a pale colour, robuſt, ſomewhat hooked, and pointed at the extremity; the ſcarlet protuberance over the eyes is very bright and beautiful.

The male and female differ greatly: the male, excepting for the little variegation of white in his wings, is totally black, but there is a fine changeable tinge of a deep blue thrown over the feathers of the neck, and in ſome degree over thoſe alſo of the back: the female is brown and mottled, and not a little reſembles the woodcock in colour; but in her, as well as in the male, there is a great deal of white diſcovered, when the wings are expanded: the principal feathers in theſe are twenty-ſix to each; they are robuſt, but the whole wing is not long or large, in proportion to the bulk of the bird.

The tail conſiſts of ſixteen feathers, and is forked, the exterior ones being greatly longer than the interior: the long feathers in the male turn back, but in the female they are ſtraight.

This is a native of England, but is not very frequent; it lives on large mountainous heaths. The male and female in the former ſpecies, as well as in this, are ſo different, that they have been deſcribed by Geſner and others as ſeparate birds. All the writers on birds have named this. Geſner calls it Urogallus minor, and Grygallus minor; others, Tetrao, ſive Urogallus minor.

Tetrao cauda bifurca ſubtus albo punctata.
The Tetrao, with a forked tail, ſpotted with white underneath.

The Wood-cock.

This is as big as our large Darking fowl; and the male and female differ ſo extreamly, that they may eaſily be miſtaken for diſtinct ſpecies: the female is grey, variegated with tranſverſe lines of black, and the tail is moderately long, forked, and the outer feathers ſtraight: the male is throughout of a very deep iron-grey, without any variegation, except that his head and neck have a beautiful tinge of a changeable blue thrown over them: the head is large, and the beak very robuſt and black, ſomewhat gibbous on the upper part, and pointed at the end: the eyes are large; their iris is hazel, and the ſcarlet eye-brows are very bright and beautiful: the legs are very robuſt, but ſhort; and the tail in the male has the long exterior feathers turned back or curled.

This is a native in England, but very rare. I did not know it was at all found here, till I killed two brace on Hindhead, a vaſt mountainous heath in the Portſmouth road. The writers on birds have not mentioned it; they either have not ſeen it, or have confounded it with the others; only Linnæus ſays ſomething of it, from the account of one Leech.

Tetrao rectricibus albis, intermediis nigris, apice albis.
The Tetrao, with the tail feathers white, or tipped with white.

The Lagopus.

This is of the ſize of our largeſt tame pigeon: the head is large; the ears are patulous; the eyes are bright, and their iris is of a hazel colour, and over them there is a naked ſpace by way of eye-brow, of a fine ſcarlet colour, and granulated figure: the beak is very ſhort and black; it is gibbous on the upper part, hooked at the extremity, and very ſharp-pointed.

The whole bird, excepting only the tail, is as white as ſnow, only that in the male there is a longitudinal ſtreak of black on the head, which diſtinguiſhes it from the female: the wings are moderately long, and there are twenty-ſix of the principal feathers in each: the tail is four inches, or more, in length, and is compoſed of ſixteen feathers, which are in general white, but ſome of them are black toward the baſe, and only white at the extremity: the legs, and even the toes, down to the very claws, are

are covered with a fine white plumage: the claws are very long, and of a lead colour.

This is a native of many of the northern parts of Europe, but we have it not in England; it lives principally on the tops of mountains, covered with ſnow. All the writers on birds have deſcribed it under the names of Lagopus and Perdix alba.

Tetrao cauda cinerea, punctis et faſcia nigra variegata.
The Tetrao, with a grey tail ſpotted, and faſciated with black.

The hazel Hen.

This is of the ſize of a moderately grown pullet: the head is large and well-feathered, except over the eyes, where there is a naked ſpace of a ſtrong ſcarlet in the male, and of a fleſh colour in the female: the eyes are large and bright; the beak is about half an inch in length, black, gibbous, and ſomewhat hooked and pointed. The male and female differ greatly in colour: in the male, the head and neck are grey, variegated with tranſverſe lines of brown: the throat is black, and the under part of the head has a white ſtreak on each ſide: the wings are of a duſky ferrugineous colour, variegated with ſpots of black; the back is of a deep grey, ſpotted alſo in the ſame manner with black; the breaſt and belly are white, with large cordated ſpots of a ferrugineous brown.

In the female, the back is of a whitiſh-grey, with longitudinal ſpots of black, and the reſt of the body has, for it's ground colour, a very pale grey, variegated with ſpots of brown and black: the wings are not long; the tail is compoſed of ſixteen feathers, tranſverſely ſtreaked with black and grey, and all of them, except the two middle ones, marked with a black faſcia toward the extremity.

The legs are robuſt and ſhort, and are feathered on the anterior part above half way down to the feet.

It is frequent in many parts of Europe, but not in England; it lives in thick woods, and feeds on the catkins of the hazel, and other trees, and on other vegetable ſubſtances. All the writers on birds have deſcribed it, and they have have all called it Gallina Corylorum.

Tetrao cauda cinerea ſuperiore medietate rufo variegata.
The Tetrao, with a grey tail variegated in the upper part with brown.

The red-legged Partridge.

This is of the bigneſs of a large tame pigeon: the head is ſmall; the ears are patulous; the eyes are large, and very bright, and their iris is red: the beak alſo is of a bright red, and is of the ſhape of that of the common hen; it is robuſt, hooked, and ſharp.

The head, as alſo the back, rump, and neck are grey, only that there is a tinge of a deep claret colour toward the bottom of the neck: the lower part of the head is white, and there is ſome white alſo about the baſe of the lower chap of the beak; over this white there runs a kind of ring of black: the breaſt is of a tawny colour, with a tinge of reddiſh; the ſides are elegantly variegated with a changeable admixture of black, grey, yellowiſh, and red: the wings are not long or large, in proportion to the bulk of the bird; the long feathers are twenty-five in each: the tail is about a hand's breadth long, and the two middle feathers are often entirely grey; the others are variegated toward their upper part with brown: the legs are of a fine bright red.

This is frequent in the cornfields of many parts of Europe, but not in England; we have it from France made into pies, and eſteem it greatly. All the writers on birds have mentioned it, and they have all called it Perdix rufa, perdix major, or perdix rufa major. The female in this ſpecies differs from the male in her colouring; the back is paler, and the breaſt browner.

Tetrao macula nuda coccinea pone oculos.
The Tetrao, with a naked ſcarlet mark behind the eyes.

The common Partridge.

This is ſomewhat ſmaller than the red-legged partridge of France laſt deſcribed, but in other reſpects greatly like it: the head is ſmall and rounded; the eyes are large and bright, and their iris is yellow: the beak is ſhort, robuſt, a little hooked, and ſomewhat gibbous on the back; there are ſome naked, red excreſcences about the eyes: the breaſt in the male has a reddiſh-mark, of the ſhape of a horſeſhoe on it: the ſides of the head and under the beak are yellowiſh, and thence they become of a bluiſh-grey, ſpotted and ſtreaked with black down to the ſpot on the breaſt; under that the colour becomes paler, and has ſome admixture of yellow with the grey.

The back, ſhoulders, ſides, and wings are all variegated with brown, grey, and black, very regularly and elegantly diſpoſed, only thoſe long feathers which hang from the ſhoulders, and the larger ones which cover the wings, have a yellowiſh-white about their middle: the wings are not long or large; the principal feathers of each are twenty-three, and theſe are brown and variegated with a yellowiſh colour: the tail is ſhort, and conſiſts of twelve feathers; the four middle ones of the colour of the body, the reſt of a duſky yellowiſh, with grey tips.

The legs are robuſt, but not long; they are of a greeniſh colour in the young birds, afterwards white; there is no mark of a ſpur in the males.

This is frequent in our fields, and all the writers on birds have deſcribed it. They all call it Perdix vulgaris, and Perdix cinerea, or Perdix cinerea minor.

Tetrao linea ſuperciliorum alba.
The Tetrao, with the line of the eye-brows white.

The Quail.

This is the ſmalleſt bird of this genus; it does not exceed the fieldfare in ſize, but it is, in all reſpects, like the reſt of it's brethren: the head is ſmall, but the eyes are large, and their iris is hazel: the beak is ſhort, but robuſt; it is not gibbous, but rather depreſſed on the upper part, but is is very ſharp; the lower chap is blackiſh, the upper of a whitiſh-brown.

The breaſt and belly are of a pale and foul yellowiſh colour; the throat is of the ſame tinge, but with ſome admixture of reddiſh, and immediately under the baſe of the lower chap there begins a black, oblong ſpot, which runs a conſiderable way down: the head is blackiſh, but the edges of the feathers are variegated with grey and brown, and there runs an elegant white line on each ſide, above the eyes: the back is variegated with brown, black, grey, and a yellowiſh colour.

The wings are not large; their principal feathers are brown: the tail is very ſhort, and conſiſts of twelve feathers; it is black, but faſciated with tranſverſe lines of a yellowiſh-brown.

The legs are ſhort, moderately robuſt, and of a pale colour; the ſkin which covers them is ſquammoſe, rather than annulated.

This ſpecies is frequent with us, and is eſteemed at our tables. The authors who have written on birds have all deſcribed it, and all under the ſame name Coturnix, or Coturnix Latinorum.

B I R D S.

Claſs the Sixth.

PASSERES.

THE beak of the Paſſeres is of a conic and much attenuated figure.

COLUMBA.

THE beak of the Columba is ſtraight, and it is furfuraceous at the baſe: the noſtrils are oblong and membranaceous, and are in part covered: the tongue is entire or undivided.

Columba cæruleſcens collo nitido, macula alarum duplici nigra.
The bluiſh Columba, with a double blackiſh ſpot on the wing.

The Wood-pigeon.

This is ſomewhat larger than the common pigeon kept in our dove-houſes, and is a more beautiful bird, though much like it in the general colouring, as well as in form: the head is ſmall; the eyes are ſmall, but bright: the beak is moderately long, ſtraight, of a kind of conic figure, pointed, and of a pale red colour: the head is of a duſky bluiſh-grey; the neck is covered with feathers of a changeable colour, which in different lights are either purple or green, both colours bright and gloſſy: the breaſt, on it's upper part, is of a purpliſh colour, and ſo are the ſhoulders, and the tops of the wings: the wings are long; and their principal feathers are variegated with black and grey: the tail is moderately long, it is compoſed of twelve feathers; they are black for about one third of their length from the extremity, and the reſt is grey: the legs are ſlender and red.

This ſpecies is frequently wild in our woods, and has been deſcribed by all the authors who have written on this ſubject, under the names of Ænas and Vinago.

The tame Pigeon.

From this have been propagated the common dove-houſe pigeon, and all the tame ſpecies, as all our varieties of the fowl-kind from the original yellowiſh wild cock. The Pouter, the Tumbler, the Barbary Pigeon, the Jacobin, and the reſt have all their origin from this, and are varieties, not diſtinct ſpecies of birds.

Columba collo utrinque albo, pone macula fuſca.
The Columba, with the neck white on each ſide, and a brown ſpot behind.

The Ringdove.

This is larger than the common wild pigeon, but greatly reſembles it in form: the head is ſmall; the eyes are ſmall and very bright, and their iris is of a pale yellow: the beak is moderately long, ſlender, and yellow, and is covered at the baſe with a reddiſh membrane; and above the noſtrils, which are ſituated in this membrane, with a furfuraceous matter: the head, the back, and the wings are of a duſky bluiſh-grey colour; the hinder part of the neck is ornamented with a white ſemi-circle or ring, reaching half way round, and reſembling a kind of collar: the part of the neck below, as well as above, this collar, is of an elegant changeable colour, appearing green, purple, or blue, according to the direction in which the light falls upon it: the front

of

of the neck, as alſo the upper part of the breaſt, are of a purpliſh colour, but with ſome admixture of grey: the belly is ſimply of a whitiſh-grey: the wings are moderately long: the principal feathers are twenty-four in each; theſe are moſt of them entirely black, but in ſome the edges are greyiſh or whitiſh: the tail is longer than in the common pigeon, and is compoſed of twelve feathers; it is black at the extremity, but grey every-where elſe: the feet are naked and red; the claws are black; the legs feathered.

We have this in England, but it is not frequent; in other parts of Europe it is more common. All the writers on birds have deſcribed it. Aldrovand calls it Palumbus major torquatus; others, ſimply, Palumbus torquatus.

The turtle is the ſame ſpecies kept tame. **The Turtle.**

Columba griſeo et nigro variegata pectore albente.
The grey and black Columba, with a white breaſt. **The Picaipinima.**

This is a regular and beautiful pigeon, of the ſize of a common ſparrow: the head is ſmall, and flatted on the crown; the eyes are ſmall, but very bright; the iris is of a gold yellow, the pupil black: the beak is ſhort, and of a dark brown: the head, neck, back, ſhoulders, and wings are covered with feathers, the body of which is grey, but the edges black; the breaſt is white, the belly of a pale grey.

This is frequent in the woods in South America. Marcgrave has deſcribed it.

Columba vireſcens pedibus flavis.
The green Columba, with yellow legs. **The St Thomas's Pigeon.**

This is of the ſize of our common pigeon, and of the ſame form: the head is ſmall and flatted; the eyes are ſmall; their iris isyellow, and the pupil black: the beak is long, and ſomewhat gibboſe on the upper part; the anterior half is blue, that next the head purple; the whole bird is green, like the common parrot, only the long feathers in the wings, and thoſe of the tail, are browniſh with the green, and there is ſome yellowneſs under the baſe of the tail: the legs are yellow.

It is a native of South America. It has it's name from an iſland called St Thomas's, where alſo it is frequent. Marcgrave has deſcribed it, and we ſometimes receive ſpecimens of it.

TURDUS.

THE beak of the Turdus is of ſubulato-conic form; it is ſtraight, ſomewhat convex on the upper part, and has no membrane at the baſe: the tongue is lacerated and emarginated.

Turdus ater, roſtro palpebriſque fulvis.
The black Turdus, with the beak and eye-lids yellowiſh. **The Blackbird.**

This is of about the ſize of the thruſh; the weight is nearly four ounces: the head is moderately large; the eyes are large and bright; there is a yellowneſs about the eye-lids: the beak is half an inch long, and ſharp-pointed; it is yellow: the male is black in all parts; the female is more brown, as are alſo the young birds of both ſexes: the wings are long and large; the principal feathers are eighteen in each, and of theſe the fourth is the longeſt: the tail is three inches, or more, in length; it is compoſed of twelve feathers, all of the ſame length, except the outer two, which are a little ſhorter than the reſt: the legs are ſlender and black; the whole bird has been ſeen white.

It



The Great Plover



The Daker Hen



The Cassowary



The Ostrich



The Sea Larke



The Cock of the Wood



The Lagopus



The Hazel Hen



The Quail



The Grouse



The Red-leg'd Partridge



The Gross Beake



The Wood Pigeon



The Turtle Dove



The Garrulus Bohemicus



The Cross Beak



The Lesser Butcher Bird

B. Cole Sculp

It is frequent with us in woods and hedges, and has been deſcribed by all the writers on theſe ſubjects. They call it Merula and Merula nigra. The males of this ſpecies, when kept in cages, are eternal ſingers.

Turdus nigricans torque albo.
The black Turdus, with a white ring.

The ring Ouzel.

This ſpecies is a little larger than the common black-bird; it's weight is near five ounces: the head is large and flatted; the eyes are large, and their iris is hazel: the beak is half an inch long, and of a browniſh colour; the inſide of the mouth is yellow, and the tongue is hairy: the head, back, and wings are of a very duſky browniſh colour; the breaſt and belly are covered with long feathers, ſpotted in the middle, and fringed about the edges with white: the lower part of the throat is elegantly variegated with a ſemi-lunar ring, or ſtreak of white, of a finger's breadth in the middle; the narrower parts or corners terminating at the ſides, and no part of the mark being continued round.

The wings are moderately long, and the long feathers in each are eighteen: the tail is compoſed of twelve; they are nearly of a length, only the exterior two are ſomewhat ſhorter, and they alſo are blacker than the reſt: the legs are brown, ſlender, and moderately long.

This is a native of moſt parts of Europe; it is found in woods, and particularly on thoſe in hilly places. All the writers on birds have deſcribed it under the name of Merula torquata.

Turdus nigricans torque fuſco.
The black Turdus, with a brown ring.

The Amzel.

This is ſomewhat larger than the common black-bird: the head is large, flatted, and compreſſed; the eyes are large, their iris is of a duſky hazel: the beak is oblong, ſlender, ſharp, and yellow: the whole upper upper part of the bird is of a duſky brown, variegated with ſpots and ſtreaks of black: the throat is of a reddiſh-brown, variegated with black ſpots; the ring at the bottom of the throat is brown, and is ſometimes ſo pale, as to be ſcarce diſtinguiſhable: the breaſt and belly are grey, and are variegated with ſpots of black; the legs are of a duſky colour.

This is common in many parts of Europe, but we have it not in England. Moſt of the writers on birds have named it. Willughby calls it Merula montana.

Turdus dorſo griſeo, plumis pinnatis.
The grey Turdus, with pinnated plumes.

The Stone Black-bird.

This is of the ſize of the common black-bird: the head is ſmall, and very little, if at all, flatted at the crown: the eyes are large and bright; the beak is a finger's breadth long, ſharp at the point, ſomewhat flatted on the upper part, and throughout black: the mouth is yellow within, and the tongue is divided: the head and back are of a deep brown, approaching to black, but variegated in a very ſingular and elegant manner with a pale grey, in ſo large a proportion, that it ſeems the principal colour; the feathers are elegantly pinnated, and the edges grey: the throat is white; the tips of the feathers which cover the breaſt are grey; there runs alſo a black line acroſs the breaſt: The legs are ſlender, and moderately long, and are of a lead colour.

This ſpecies is frequent in many parts of Europe, but we have it not in England. Moſt of the authors who have written on birds have deſcribed it. They call it Merula ſaxatilis; and Ray in particular, Merula ſaxatilis Sturni genus.

Turdus variegatus capite cano.
The variegated Turdus, with a hoary head.

The Fieldfare.

This is larger than the common black-bird: the head is ſmall, oblong, and flatted; the eyes are large, and the eye-lids and a little ſpace about them are yellow: the ears are patulous; the beak is nearly half an inch long, and ſlender; it is yellow, except at the point, where it is black: the head is of a pale grey; the neck alſo and the rump are grey: the back and covering feathers of the wing are of a yellowiſh colour, variegated with ſpots of black; the throat is ſpotted with black and yellow; the lower part of the breaſt and the whole belly are of a whitiſh colour, and without ſpots: the legs are black, and the claws alſo black.

This is not a native with us, but it comes over in great abundance in winter. Authors who have written on birds have all deſcribed it. Charleton calls it Turdus Trichos; others, Turdus Pilaris.

Turdus linea ſupra oculos albicante.
The Turdus, with a white line over the eyes.

The common Thruſh.

This is ſmaller than the fieldfare; it's weight is about three ounces: the head is ſmall and flatted; the eyes are bright, their iris is hazel; the ears are patulous; the beak is half an inch long, brown, and pointed: the head is of an olive brown, ſpotted with a darker colour; the white line runs over the eyes: the back is of the ſame olive brown, variegated in the ſame manner; the wings have a tinge of the ferrugineous: the breaſt is yellow, and the belly whitiſh: the legs are brown.

This is frequent in our woods and hedges; it ſings very agreeably. All the writers on birds have deſcribed it. They call it Turdus Iliacus, and Turdus viſcivorus minor.

Turdus cinereo-flaveſcens pectore maculato.
The greyiſh-yellow Turdus, with a ſpotted breaſt.

The Miſſel Thruſh.

This is the largeſt of the Turdus-kind; it's weight is near five ounces: the head is ſmall; the eyes are bright, and their iris is hazel; the beak is half an inch long and brown: the head is of a greyiſh colour, with ſome variegation of black in the middle of the feathers: the back and the wings are of the ſame greyiſh colour, with a tinge of yellowiſh: the breaſt and belly are ſpotted with black; the ground colour of the breaſt is yellow, that of the belly whitiſh.

All the writers on birds have mentioned this. They call it Turdus viſcivorus major.

Turdus dorſo cinereo-aurantio, pectore albo.
The orange-grey Turdus, with a white breaſt.

The Redwing.

This is ſmaller than the common thruſh, but it has much of the appearance of the fieldfare: the head is ſmall and flatted; they eyes are bright, their iris is of a deep hazel; the ears are patulous, and the beak is brown, with ſome admixture of yellow: the head, neck, and back are of a duſky greyiſh, with a tinge, but a faint one, of an orange yellow: the ſides under the wings, and the under part of the wings themſelves, are of a yet ſtronger orange colour, approaching to red: the breaſt is white, ſo is alſo the belly, but the throat is yellowiſh; and over the eyes there runs a line of yellow: the legs are of a paler colour; the toes long.

All the writers on birds have mentioned this. They call it Turdus Iliacus and Tyllas; the Germans, the Wyntroſtell; and we, improperly thence, the Wind Thruſh.

Turdus

Turdus totus cæruleſcens.
The wholly blue Turdus.

The Indian Mock-bird.

This is of the ſize of our common black-bird: the head is larger, in proportion; the eyes are bright and large; the ears patulous, and the beak half an inch long, and of a duſky colour: the whole bird is of a deep and beautiful blue colour. It has a faculty of imitating ſounds, whence it obtained the name of the Mock-bird. Authors, who have deſcribed it, have called it Cæruleus Indicus.

Turdus coccineus alis et cauda nigris.
The ſcarlet Turdus, with the wings and tail black.

This is ſomewhat of the figure of our black-bird, but thicker and ſhorter in the body; the ſize is nearly the ſame: the head is ſmall; the eyes are large, and their iris is of a bright hazel; the ears are patulous: the whole back, breaſt, and belly are of a beautiful ſcarlet colour; the wings and the tail are black: the beak is red, but black at the baſe: the legs are of an orange colour.

This is frequent in ſome parts of Europe, and in America. Aldrovand calls it Merula roſea.

Turdus niger pectore ſanguineo.
The black Turdus, with a blood-red breaſt.

The Jacapu.

This is of the ſize and ſhape of our black-bird: the head is ſmall; the ears are patulous; the iris of the eyes hazel, and the beak yellowiſh: the head, neck, ſhoulders, and back are black; the rump is grey: the breaſt is of a fine ſcarlet, and the feet are yellow.

This is a native of the Braſils. Marcgrave calls it Jacapu; and Willughby, Merula Indica pectore ſanguineo.

Turdus torquatus occipite ſanguineo.
The torquated Turdus, with the hinder part of the head red.

This is of the ſize of the common black-bird, and much reſembles in figure that ſpecies of Turdus, which we call the Redwing: the head is ſmall, and conſiderably depreſſed; the iris of the eyes is of a deep hazel: the beak is half an inch long, ſlender, and pointed; the noſtrils are oval and large, and the ears are patulous: the whole body is of a duſky colour, with few variegations; the remarkable one is a ring at the lower part of the neck, and the redneſs of the whole hinder part of the head is a very ſtriking diſtinction; the legs are ſlender and yellow.

It is a native of Italy, but few of the writers on birds have been acquainted with it.

STURNUS.

THE beak of the Sturnus is of a ſubulated figure, depreſſed in an angulated manner, and obtuſe at the extremity: the tongue is marginated and acute. Of this genus there is but one known ſpecies; others have been referred to it, but erroneouſly.

STURNUS. **The Starling.**

This is of the ſize of the common black-bird, but it ſtands more erect, and the body is ſlenderer: the head is ſmall and depreſſed; the eyes have a hazel iris; the beak

is

is more than half an inch long, and is yellow in the male, and brown in the female: the general colour is black, but it is variegated with ſpots of grey, and the tips of the feathers of the neck and back are yellowiſh; there is a changeable caſt of bluiſh or purpliſh, as it is viewed in different lights, ſeen all over the back, and that particularly in the male, and the rump has a tinge of greeniſh or greyiſh: the wings are moderately long, and their principal feathers are brown: the tail is moderately long, and compoſed of twelve feathers; they are brown, and have ſome yellow at their edges.

This is frequent with us, and, when taught, will imitate the human voice. All the writers on birds have named it, and all have called it by the ſame name Sturnus.

ALAUDA.

THE beak of the Alauda is ſtraight, and of a ſubulated form, and both the chaps are equal in length: the tongue is membranaceous, acute, and emarginated, and the hinder toe is longeſt.

Alauda rectricibus albo et ferrugineo partim variegatis.
The Alauda, with the long wing feathers variegated with white and brown.

The Sky-lark.

This is ſomewhat larger than the common ſparrow, and the body is longer, in proportion to it's thickneſs; it's weight is about an ounce and half: the head is ſmall, and the beak ſlender; the noſtrils are ſmall and round: there is a grey corona ſurrounding the hinder part of the head, and reaching to the eyes; and the bird has a way of erecting the feathers along the top of the head, ſo as to form a kind of creſt: the general colour of the head is a browniſh-grey, with ſome blackneſs in the middle of the feathers: the back is of the ſame general colouring, and has the ſame variegations: there is ſome white under the throat toward it's top, and lower down it is yellowiſh, with ſpots of brown: the wings are long and well-feathered; the tail is moderately long, and is formed of twelve feathers: the legs are brown; the toes are ſlender, and the hinder one longeſt.

This is very common with us, and is deſcribed by all the writers on birds. They call it Alauda vulgaris; and ſome of them Alauda criſtata; others, Alauda non criſtata.

Alauda lineola ſuperciliorum alba.
The Alauda, with the line over the eyes white.

The Titlark.

This is conſiderably ſmaller than the common lark; it's weight is hardly an ounce: the head is ſmall and depreſſed; the iris of the eyes is hazel; the beak is fully half an inch long, and very ſlender: the head, the ſhoulders, and the back are mottled with yellow, black, and greeniſh: the rump is, ſimply, of a yellowiſh-green; and the neck, on it's upper part, has all the variegations of the back, but they are obſcured by a conſiderable admixture of grey.

The throat, the breaſt, and ſides are of a yellowiſh-white, variegated with ſpots of black; and the lower part of the belly is, ſimply, of a whitiſh-yellow.

It is frequent with us in woods, and ſits on trees, which the former ſpecies never does. All the writers on birds have deſcribed it. They call it by the general name of Alauda Pratorum.

Alauda

Alauda alis oblique albo variegatis.
The Alauda, with the wings obliquely variegated with white.

The Wood-lark.

This is of a middle ſize, between the common lark and the tit-lark; it's weight is about an ounce and a quarter, and it's body is ſhorter, in proportion to it's thickneſs, than in the common lark: the head is ſmall; the beak is brown, ſlender, and half an inch long: the noſtrils are round; the iris of the eyes is brown: the legs are of a pale ſtraw colour, and ſometimes reddiſh.

The breaſt and belly are of a yellowiſh-white, and the throat is whiter ſtill, but there are black ſpots on the middle of all the feathers: the head and back are mottled with black, brown, and yellowiſh; the neck has a great deal of grey diffuſed over it: there runs a white line backwards from each eye, which in a manner ſurrounds the head; the rump is of a reddiſh-yellow, and the long feathers in each wing; and ſome them are elegantly and obliquely divided between white and brown, eſpecially the ſecond in each wing, which is the characteriſtic of the ſpecies.

This is frequent with us; we often ſee flights of them librating themſelves in the air, and ſinging at the ſame time with a note not unlike that of the black-bird. All the writers on theſe ſubjects have deſcribed it. Ray, Willughby, and others diſtinguiſh it by the name of Alauda Arborea.

Alauda gula pectoreque flaveſcente.
The yellow-breaſted Alauda.

This is of the ſize of the common ſparrow, and more reſembles that bird in ſhape than any other ſpecies of this genus: the head is ſmall; the beak ſlender, and the iris of the eyes hazel: the ground colour of the head, neck, and back is a ruſty grey, and it is variegated with ſpots of black and brown, diſpoſed in the manner of thoſe on the wood-cock: the breaſt and the throat are yellow; there is alſo a line of yellow on each ſide of the head over the eyes, continued to the hinder part; the belly is white: the covering feathers of the wings are of a blackiſh-brown, ſpotted with white: the tail is moderately long, and not forked.

We have this in plenty in England, and in moſt other parts of Europe. Ray, Willughby, and others have called it Alauda minor campeſtris.

Alauda rectricibus nigris, lateralibus tribus albis.
The Alauda, with the tail feathers black, except the three lateral ones, which are white.

The pied Chaffinch.

The Engliſh name of this ſpecies is a very ſtrange one, for one of this genus; but it muſt be acknowledged that the bird has leſs of the general appearance of the lark-kind than any of the others; the generality of writers have not indeed known whither to refer it. It is about the ſize of the wood-lark: the head is ſmall; the beak is ſhort, and not very ſlender; and the eyes bright, and their iris of a beautiful hazel: the head, neck, and breaſt are of a whitiſh-brown; the whole under part of the body is whitiſh; the back is naturally black, but it varies with grey and brown: the wings are black at the tips, and whitiſh elſewhere: the tail is black, excepting for the three outer feathers on each ſide, which are white.

This is not a native of England, but in the more northern parts of Europe it is frequent. Authors have deſcribed it under the ſeveral names of Paſſer Laponico-Alpinus, and Avis nivalis; and the bird deſcribed as different ſpecies, under the names of Fringilla montana, and Montifringilla calcaribus Alaudæ, ſeems to be the ſame in all reſpects with it.

FRINGILLA.

THE beak of the Fringilla is of a conic figure, and acute; the two chaps mutually receiving one another.

Fringilla alis flavo nigro et albo variegatis.
The Fringilla, with the wings variegated with black, yellow, and white.

The Gold-finch.

This is ſmaller than the common ſparrow, and of a more elegant form: the head is large and round; the neck ſhort and thick; the eyes are bright, and their iris is of a dark hazel: the beak is robuſt, ſhort, and white, ſometimes black juſt at the tip.

The bird is very gaily and elegantly coloured; there is a beautiful ſpot of red at the baſe of the beak: the top of the head is black, and it's hinder part white: the neck and back are of a mixed colour, compoſed of grey, and a reddiſh-brown: the belly is white; the ground colour of the wings and tail is black, but they are elegantly variegated with yellow and white: the legs are ſhort, and the hinder toe is longer than any of the others.

This ſpecies is very frequent with us, eſpecially on heaths, and by way-ſides, where there are thiſtles, on the ſeeds of which it feeds. All the writers on birds have have named it; they all call it Carduelis.

Fringilla capite nigricante maculato.
The Fringilla, with a black-ſpotted head.

The Greenland Gold-finch.

This is of the ſize of our common linnet. The head is large, rounded, and well-feathered; the eyes are large; their iris is of a deep hazel; the beak is robuſt, ſhort, and yellow, but black at the tip: the head is black, but there is an elegant ſpot of white on each ſide of it behind the eyes, and ſome other variegations: the hinder or upper part of the neck is of a reddiſh-brown; the back, the wings, and the tail are of a greyiſh colour, with an admixture of brown: the breaſt is white, but there runs all down it a longitudinal ſtreak of black: the tail is ſhort and forked.

This is a native of Sweden and Denmark. Rudbeck and others call it Carduelis Laponica.

Fringilla alarum baſi ſubtus flaviſſima.
The Fringilla, with the baſe of the wings a gold yellow underneath.

The Brambling.

This is a very beautiful bird; it is of the ſize of the common lark: the head is moderately large and rounded; the beak is a quarter of an inch, or ſomewhat more, in length, very robuſt, and of a conic figure; the baſe is uſually yellow, and the extremity black, but ſometimes it is black all over.

The head, neck, and upper part of the back, in the male, are of a fine ſhining black, with a changeable tinge of purple: the hinder part toward the rump is whitiſh; the throat is of a reddiſh-brown, with an admixture of yellow: the breaſt is white, and the feathers behind the anus are reddiſh: the principal feathers of the wings are black, but they are more or leſs variegated with white and brown: the tail is black, but it is ſometimes in part tipped or edged with browniſh or whitiſh. In the female, the head is of a greyiſh-brown; the neck is grey, and the back is variegated with a great deal of browniſh-grey at the edges of the feathers.

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We have this ſpecies in England but rare; it is very frequent in other parts of Europe. All the writers on birds have named it. Ray calls it Fringilla Montana; others, Montifringilla.

Fringilla pectore ferrugineo, alis nigris albo maculatis.
The Fringilla, with a ferrugineous breaſt, and with the wings black and ſpotted with white.

The Chaffinch.

This is ſomewhat ſmaller than the common ſparrow; it's weight is leſs than an ounce. The head is large and rounded; the iris of the eyes is hazel; the beak is ſhort, but very robuſt and ſtrong: the head in the male is bluiſh, and almoſt black, juſt at the anterior part: the back is of a reddiſh-brown, with ſome admixture of greeniſh and greyiſh; the breaſt is of a reddiſh hue, and the lower part of the belly is white: the wings are black, variegated with white, and the tail is alſo black and white: the legs are ſhort, robuſt, and brown.

It is very common with us, and all the writers on birds have deſcribed it. They call it Fringilla.

Fringilla vireſcens alis et cauda luteo variegatis.
The greeniſh Fringilla, with the wings and tail variegated with yellow.

The Green-finch.

This is a little larger than the chaffinch: the head is large and round, the ears are patulous; the iris of the eyes hazel, and the beak conic and robuſt: the whole upper part of the body in the male, and eſpecially in the ſummer months, has a ſtrong tinge of green diffuſed over it at other times, and in general in the female; it is of a duſky brown, with only a faint tendency toward the olive: the breaſt and belly are yellowiſh, but this is alſo more ſtrongly in the male than in the female, and moſt conſpicuous in the ſummer months: the wings and tail are black, but they are both beautifully variegated with a bright yellow.

This is very frequent with us. All the writers on birds have deſcribed it, and all under the ſame name Chloris.

Fringilla dorſo cinereo-luteſcente, pectore maculato.
The yellowiſh-grey Fringilla, with a ſpotted breaſt.

The Siskin.

This is of the bigneſs of the green-finch: the head is large and round; the iris of the eyes is hazel; the beak ſhort, conic, and robuſt: the head is black; the back has a greeniſh tinge, but, when nearly viewed, the colour is found to be compoſed of a mixture of grey and yellow; the upper part of the neck is blackiſh; the rump is of a greeniſh-yellow: the throat and breaſt are ſpotted, and of a greeniſh-yellow; the belly is white: the wings are elegantly variegated with a tranſverſe ſtreak of yellow, and the principal feathers are browniſh, but green at the edges.

We have not this ſpecies wild in England; it is frequent in Germany, and ſings very ſweetly. The writers on birds have almoſt all mentioned it. Geſner calls it Acanthus avicula; others, Spinus ſive Ligurinus. It is fond of places where there are juniper-trees, in it's wild ſtate.

Fringilla capite flavo, dorſo griſeo-flavicante.
The Fringilla, with a yellow head, and a greyiſh-yellow body.

The Yellow-hammer.

This is ſomewhat larger than the common ſparrow, and is an extreamly beautiful bird: the head is large; the eyes have a hazel-coloured iris: the ears are patulous; the

the beak is robuſt and conic, and the ſides of the under chap of it are compreſſed, and of a ſingular form: the throat is of a fine bright yellow, as is alſo the belly; the breaſt has ſomewhat of a reddiſh tinge, mixed with that colour: the head is yellow, but there is a greeniſh tinge in it, and an admixture of brown: the ſhoulders are of a mixed green and grey; the feathers which cover the back are black in their middle, but their edges have a tinge of greeniſh and greyiſh, and ſomewhat of brown: the female is, in general, of a paler colour than the male, and has leſs yellow about her: the male, in the ſummer months, when viewed in front, appears almoſt entirely yellow.

This is very frequent with us. All the writers on birds have deſcribed it. Geſner calls it Emberiza flava; Bellonius, Hortulanus; Aldrovand, Luteæ alterum genus.

Fringilla corpore albicante, alis et cauda vireſcentibus.
The whitiſh Fringilla, with the wings and tail greeniſh.

The Canary-bird.

This is about the ſize of the chaffinch, and much reſembles it in ſhape: the head is large and rounded; the eyes are ſmall, but bright: the beak is robuſt and ſharp-pointed, but it is ſhort, and of a conic figure. The whole bird, in it's natural ſtate, is of a cream colour, or yellowiſh-white, except that the principal feathers of the wings and tail are greeniſh; but with us, as bred in cages, and under various accidents, it differs greatly in colour.

It is a native of the Canary Iſlands, whence it has it's name; but the melody of it's voice has occaſioned it to be brought into all parts of Europe, and it will be eaſily made to breed with us in cages. All the writers on birds have mentioned it. Geſner calls it Canaria; the others, with one voice, Paſſer Canarienſis. We are not to ſuppoſe all the accidental differences we ſee in it are any thing more than varieties.

Fringilla nigro et fuſco variegata, collo vireſcente.
The brown and black variegated Fringilla, with a green neck.

The Berluccio.

This is of the bigneſs of the yellow-hammer, but the body is ſlenderer: the head is large, and of an oval form; the eyes are ſmall, and their iris hazel; the beak is ſhort, thick, very robuſt, and in the male red all over; but in the female the upper chap is black, and the under one blue: the head is of a greyiſh-brown colour, variegated with black; the back is alſo of the ſame colours, but there is leſs of the black in it: the breaſt and the throat are grey in the male; indeed there is a redneſs diffuſed among the grey of the breaſt: the rump is of a darker brown, and has ſome red alſo in it: the wings are moderately long, and are elegantly variegated with white, greeniſh, and brown: the tail is compoſed of twelve feathers, and is principally brown, but there is ſome black, and ſome white in it; it is about an inch and half in length.

This is frequent in moſt parts of Europe, but we have it not in England. All the writers on birds have deſcribed it, and they have all called it Hortulanus; the Italians call it Berluccio.

Fringilla capite cinereo, dorſo griſeo, pectore rubente.
The Fringilla, with a grey head and back, and a reddiſh breaſt.

The greater Linnet.

This is of the bigneſs of the common ſparrow: the head is ſmall and depreſſed; the eyes are ſmall, and their iris hazel; the beak is ſmall, conic, and acute; the head is of a pale aſh colour, often with a tinge of red; the back is of a duſky browniſh-grey: the breaſt and belly in the female are of a pale whitiſh-grey, but in the male there is a great bluſh of red on the breaſt.

The

The wings are moderately long; the principal feathers are black, variegated with white: the tail is forked; the female never has the redneſs at the top of the head; the male always has it in ſome degree, but it is more conſpicuous in ſummer than in winter.

This is frequent with us, and has been deſcribed by all the writers on birds. They call it Linaria rubra major.

Fringilla dorſo fuſco et albo variegato, pectore ſanguineo.
The Fringilla, with the back brown and white, the breaſt red.

The common Linnet.

This is of the ſize of the gold-finch, or ſomewhat larger: the head is ſmall and flatted; the eyes are ſmall and hazel; the beak is conic, very ſmall, and ſharp at the point: the head, neck, and back are variegated with a bright brown and white; the breaſt and belly are pale; but in the male, and eſpecially in the ſummer months, there is a redneſs on the top of the head, and all over the breaſt: the tail is brown, with the tips and edges of many of the feathers pale: the long feathers of the wings are alſo brown, with the edges pale; and there is a white ſpot on the upper part of each wing, formed by the covering feathers.

This is very frequent with us. Geſner and others call it Linaria rubra; Ray and Willughby, Linaria rubra minor.

Fringilla capite nigro, maxillis rufis, torque albo.
The Fringilla, with a black head, brown at the ſides and with a white ring.

The Reed-ſparrow.

This is a very beautiful and a very ſingular bird; it is of the ſize of the common linnet: the head is ſmall and depreſſed; the beak ſhort and black, and the eyes hazel: the head is black, only that there is ſome reddiſh-brown about the angles of the mouth; the throat and breaſt are alſo black; there is a whiteneſs ſurrounding the black of the head, in form of a ring: the outer part of the neck is grey; the back is brown, and both are ſpotted very freely with black: the long feathers of the wings are black, but their exterior edge is of a ferrugineous colour: the tail-feathers are alſo moſtly black, but ſome of them are brown, and others grey at the edges: the rump is of a duſky grey, and the belly white.

It is frequent in watery places, and has a very ſweet and ſingular note. Geſner calls it Paſſer Aquaticus ſive Schæniclos; Aldrovand, Junco ſive Paſſer arundinaceus; Ray and Willughby, and from them ſeveral others, Paſſer torquatus in arundinetis nidificans.

Fringilla fuſca gula nigra, temporibus ferrugineis.
The brown Fringilla, with a black throat, and brown temples.

The common Sparrow.

This is larger than the linnet, and the male is an erect and handſome bird: the head is large; the eyes ſmall, and the beak ſhort: the general colour on the back is a duſky brown, and on the breaſt and belly whitiſh: the head in the male is grey, ornamented with a black ſpot, and the ſides browniſh: the throat is ornamented with a large black ſpot: the wings are ſhort, and their principal feathers brown; the tail is ſhort and forked.

This is common in all parts of Europe, and is deſcribed by all the writers on birds, under the name of Paſſer domeſticus.

TROCHILUS.

THE beak of the Trochilus is of a ſubulated figure, but fine as a thread; it is not perfectly ſtraight, and is longer than the head: the whole bird is very minute.

Trochilus aureus purpure variegatus.
The gold and purple Trochilus.

The yellow humming-bird.

This is the ſmalleſt of all the known birds; our largeſt ſpecies of the humble-bee is very nearly equal to it in ſize: the head is ſmall and rounded; the beak is long, very ſlender, and turns upward toward the extremity; the eyes are minute, but very bright: the legs are extreamly ſmall: the colour in the female is perfectly, and without variegation, yellow; in the male there is a beautiful tinge of purple thrown in the way of a changeable colour over the head and neck, and in ſome degree over the breaſt; and, in the male, the yellow is alſo more bright and glittering than in the female.

This is a native of many parts of America, and feeds on the honey juices of flowers, which it ſucks in the ſame manner as the bee, and often is on the wing all the time it is feeding. The late authors on theſe ſubjects have all mentioned it. They call it Mellivora and Tomineio.

Trochilus virideſcens.
The green Trochilus.

The green humming-bird.

This, though very minute, is a little larger than the other, and is yet more beautiful: the head is ſmall and round; the beak is long, and extreamly ſlender, and turns up toward the point: the eyes are minute, and their iris of a gold yellow: the whole bird is of the ſame uniform colour, which is the moſt elegant green imaginable, with a ſhade of a deep changeable blue on many parts, and particularly about the head and neck: the wings are long, and of a brighter green than any other part; the legs and feet are wonderfully ſmall: the diminutive ſize and ſingular colouring of theſe birds are incidents ſo ſtriking, that there requires little more to be ſaid to characteriſe and diſtinguiſh them.

This is a native of the ſame parts of America with the former, and the ſame writers have deſcribed it.

Trochilus purpuraſcens.
The purple Trochilus.

The purple humming-bird.

This is the moſt beautiful of the three ſpecies, and is of a middle ſize between the other two: the head is very ſmall, and almoſt perfectly round; the eyes are minute, and their iris of a gold yellow: the beak is of nearly twice the length of the head, and is ſlender as a thread of ſilk; of a deep gloſſy brown, and turned upwards at the extremity: the legs are very minute, and the feet of an elegant and beautiful ſtructure: the head is of a deep blood colour, with a ſhade of a changeable hue, that appears at firſt ſight to be black, but is in reality a very deep blue: the neck is ſomewhat paler than the head; the whole upper ſurface is of a bright and beautiful purple, and the breaſt and belly of the ſame colour, only of a paler tinge; there is ſome of the changeable blue diffuſed alſo over the back, but none of it on the breaſt.

This is a native of the ſame parts of the world with the former, and is frequently brought over by way of curioſity, among the other ſpecies. They are ſo ſmall, and ſo elegantly coloured, that the women of ſome parts of America wear them in their ears by way of pendants.

SITTA.

SITTA.

THE beak of the Sitta is of a conic, and ſomewhat cultrated, form: the tongue is lacerated and emarginated, and the feathers of the tail are rigid.

Of this genus there is but one known ſpecies, and that has been uſually confounded with the picæ.

SITTA. The Nuthatch.

This is of the ſize of our common gold-finch: the head is ſmall and depreſſed; the beak is ſhort, and is black on the upper part, and whitiſh on the lower, toward the throat: the noſtrils are round, and are ornamented about their edges with ſhort rigid hairs.

The head, neck, and back are grey; the ſides under the covers of the wings are reddiſh: the throat and the breaſt are of a paler yellow, with a tinge of browniſh or cheſnut red in it; the lower part of the belly has ſome red feathers, with white tips: there runs on each ſide of the head, from the angles of the beak quite to the neck, a long black ſpot.

The wings are grey; the long feathers are eighteen in each, and each wing is variegated on the under part with two white ſpots: the tail is very ſhort, and is compoſed of twelve feathers, which are ſome of them totally grey, others partly black; there is a tranſverſe white ſtreak under it, and the whole is rigid, in the manner of that of the wood-pecker-kind, and ſerves to the ſame purpoſes, aſſiſting the bird in ſupporting itſelf on the trunks of trees.

It is frequent with us; it's food is ſometimes inſects, but, in defect of them, vegetables, as nuts and the like. All the writers on birds have deſcribed it. They call it Picus cinereus.

AMPELIS.

THE beak of the Ampelis is conic, ſtraight, and convex: the upper chap is longer than the under, and the point is emarginated both ways: the tongue is crooked, cartilaginous, acute, and bifid.

Ampelis griſea capite nigro variegato.
The grey Ampelis, with the head variegated with black. The Roller.

This is of the ſize of the common black-bird: the head is large, and ſomewhat depreſſed; the beak is black: the head is of a bright brown, variegated with black; the feathers toward the hinder part are longer than elſewhere: at the angles of the mouth there is alſo a line of white on each ſide: the whole body is grey, only that toward the head there is ſome admixture of a cheſnut brown: the throat, the temples, and the ſpace about the eyes are black: the feathers which cover the noſtrils are alſo black, and ſo are the long feathers of the wings, and thoſe of the tail; the legs and feet alſo are of the ſame colour: the long feathers on the hinder part of the head are moveable at the creature's pleaſure, and, when they are erected, it appears creſted: the rib of the long feathers of the tail is of a reddiſh hue, and their tips are yellowiſh; and the long feathers of the wings are ſome of them terminated in a very ſingular manner, by a fine purple membrane: the covering feathers of the wings are alſo black, but the principal of them have the tips white, which occaſions ſome variegation.

This

This is a native of many parts of Europe, but we have it not in England; it lives principally in woods. Geſner calls it Garrulus Bohemicus; Aldrovand, Ampelis; Jonſton, and many others, Picæ glandariæ ſpecies.

Ampelis dorſo griſeo, macula ad oculos longitudinali.
The grey-beaked Ampelis, with a longitudinal ſpot at the eyes.

This is a bird ſtrangely miſplaced, as to it's genus, by the generality of the naturaliſts, moſt of them making it a kind of hawk; the bird is about the bigneſs of a lark: the head is moderately large and depreſſed; the eyes are bright and piercing, and their iris hazel; the beak is black, long, ſtrong, and hooked at the end, and near the curvature there are two appendages, one on each ſide; the mouth is yellow within, and the fiſſure of the palate hairy.

There are a number of ſhort, black briſtles about the noſtrils and the angles of the mouth; the back is of a ferrugineous brown, and ſo are the ſmaller covering feathers of the wings: the head is grey, and ſo is the rump; from the beak, on each ſide, there runs a longitudinal black ſtreak along by the eyes, to the back part of the head: at the extremity of this ſpot there is a white one, ſerving to divide it from the grey: the belly is white, and the throat and breaſt are alſo white, but they have a tinge of red diffuſed over them: the wings are moderately long; the tail is compoſed of twelve feathers, the middle ones longeſt; theſe are totally black, the others are more or leſs variegated with white: the legs are black, or of a very deep blue.

It is a native of England, but is not very common with us; it feeds on beetles, flies, and other inſects. All the writers on birds have deſcribed it. Willughby calls it Lanius tertius; others, Lanius minor rufus.

Ampelis cæruleſcens alis caudaque nigricantibus.
The bluiſh Lanius, with the wings and tail black.

This is of the ſize of the common black-bird: the head is ſmall and flatted; the eyes are bright and piercing, and their iris yellow; the beak is oblong, and ſomewhat hooked at the extremity: the head is of a very dark blue grey, approaching to black, and there is a line of abſolute black paſſing from the angles of the beak, to the hinder part of the head: the back alſo is of the ſame dark blue grey, and the breaſt and belly are of the ſame colour, only paler: the long feathers of the wings have their tips white: the tail is black, and the legs and feet are black.

The bird is frequent in ſome parts of England. All the writers on theſe ſubjects have mentioned it. Willughby calls it Lanius cinereus major; others, Collurio major.

L O X I A.

THE beak of the Loxia is large, thick, and ſhort, crooked, convex each way, and the upper chap of it is moveable, as well as the under: the tongue is entire and undivided.

Loxia linea alarum duplici alba. **The Groſs-beak.**
The Loxia, with a double line of white on the wings.

This is larger than the common ſparrow: the head is large and round; the beak is remarkably large, thick at the baſe, and pointed at the extremity; of a conic figure, and of a reddiſh or whitiſh colour: the eyes are large, and their iris is grey; the front of the head is of an orange colour, and between that and the eyes it is black: the reſt of the head is of a reddiſh-brown, with ſome tinge of yellow; the neck is grey; the back is of a reddiſh-brown, but the middle part of all the feathers is whitiſh: the breaſt



The Nuthatch



The Starling



The Ring Ouzel



The Merula or Redstart



The Crested Lark



The Pied Finch



The Gold Finch



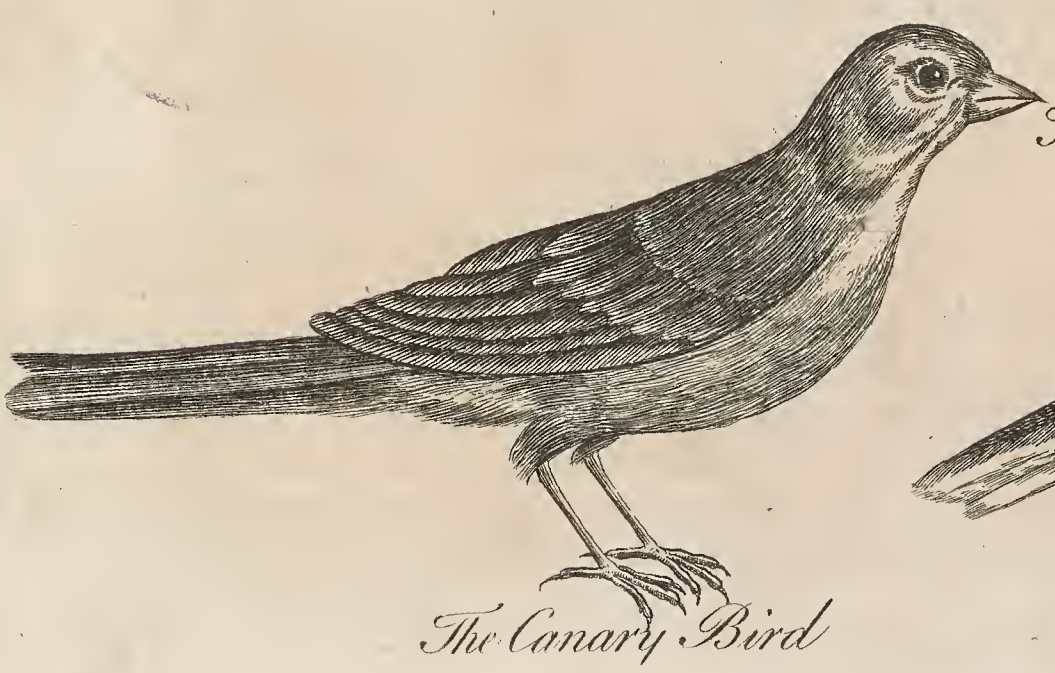
The Brambling



The Siskin



The Bunting



The Canary Bird



The Hortulanus B. Colesaul.

breaſt is of a reddiſh-grey, and ſo are the ſides, but the ſides have more of the red than the breaſt: the belly, eſpecially toward the tail, is white: the long feathers in each wing are eighteen; the tail is ſhort, and is compoſed of twelve feathers, all of equal length.

This is a native of Germany, France, and Italy; it ſometimes comes over to us in winter. Authors call it Coccothrauſtes and Coccothrauſtes vulgaris. We the Haw-finch or Groſs-beak.

Loxia roſtro forficato.
The Loxia, with a forficated beak.

The Croſs-beak.

This is much of the form and ſhape of our bull-finch, but a little larger: the head is large and rounded; the eyes are large, and their iris is of a greyiſh hazel: the beak is very long, in proportion to the bird, and is of a very ſingular form: it is thick at the baſe, and both the chaps are arched or bent ſo, that the points croſs one another, and ſtand at a diſtance: the head, neck, back, and covering feathers of the wings are of a deep blackiſh colour, but the edges of all the feathers have a greeniſh caſt; there is alſo ſomewhat of grey in the head, along with the general colour: the rump is greeniſh; the upper part of the throat is grey, and the breaſt is green; the belly is white, and the feathers immediately under the tail are black. This is the general colouring, but the bird differs extreamly both in the different ſexes, and in ages, and even in ſeaſons of the year; it has often more of the green, ſometimes a great deal of yellow in it, and at ſome times is browniſh.

It is frequent in Germany, and we have it alſo in the Weſt of England; with us it eats apples, cherries, and other fruits, and is very ravenous. In other parts of Europe it feeds principally on the kernels in the cones of the pine and fir-kind, and it's beak ſeems formed on purpoſe for the getting at them. All the authors on birds have called it Loxia.

Loxia capite nigro, pectore rubente.
The Loxia, with a black head, and a red breaſt.

The Bull-finch.

This is about the ſize of the common ſparrow: the head is large and rounded; the eyes are large, and their iris is hazel; the beak is very thick, and very ſhort, and both chaps are convex: the front of the head is black, but in the male there is ſome redneſs at the ſides: the back is of a duſky bluiſh-grey, approaching to black, as are alſo the neck, ſhoulders, and tops of the wings: the breaſt is red, as is alſo the throat; the belly is white, and there is alſo ſome white in the feathers, which cover the baſe of the tail, and the larger ones of the wings: the wings are elegantly variegated with black and red; the tail is ſhort, black, and compoſed of twelve feathers.

This is common with us. Authors call it Rubicilla and Pyrrhula; we, the Alp, or Nope, and the bull-finch.

MOTACILLA.

THE beak of the Motacilla is of a ſubulated figure, and is ſtraight; the tongue is lacerated.

Motacilla pectore nigro.
The Motacilla, with a black breaſt.

The common Wagtail.

This is a very beautiful bird; it is about equal to the gold-finch in ſize, but the body is longer, in proportion, and is much better covered with feathers, ſo that it looks much larger than it is: the head is large and rounded; the eyes are large, and

their iris hazel; the beak is ſtraight, ſlender, moderately long, and black: the beak and the eyes are ſurrounded with a ſpace of white, which is continued in a broad line, down almoſt to the wings: the crown of the head, both ſides of the neck, and the back are black; the breaſt and belly are white: the wings, when expanded, are of a ſemicircular figure; the long feathers in each are eighteen: the tail is long, and both that and the wings are variegated with black and white.

This is frequent with us about waters. Authors call it Motacilla alba.

Motacilla pectore abdomineque flavo.
The yellow-breaſted Motacilla.

The yellow Wagtail.

This is a more beautiful bird than the former; it is of the ſame figure with the former, but ſomewhat ſmaller: the head is rounded; the eyes are large, and their iris of a greyiſh hazel: the head and neck are of a duſky olive colour, approaching to black; the middle of the back is greeniſh; the breaſt and belly are yellow; the ſides of the head are variegated alſo with ſome ſtreaks of yellow, and the wings have ſome variegation of white.

This is frequent enough about waters. Authors call it Motacilla flava.

Motacilla pectore albo, corpore nigro.
The Motacilla, with a black body and white breaſt.

The water Ouzel.

This is of the bigneſs of the common black-bird: the head is large and round; the eyes are large, and their iris is hazel, with a tinge of grey: the beak is ſlender and black; the head and the upper part of the neck are of a deep ruſty brown, approaching to black: the back, wings, and ſhoulders are variegated with a deep grey, and a bright black: the throat and the anterior part of the breaſt are of a ſnow-white; the upper part of the belly is reddiſh, but the lower part, toward the tail, is black.

This is frequent in many parts of England. Authors call it Merula aquatica.

Motacilla dorſo cano, fronte alba.
The Motacilla, with a grey back and white forehead.

The Wheat-ear.

This is of the bigneſs of the ſparrow: the head is large and flatted; the eyes are ſmall, and their iris grey: the beak is ſlender, oblong, and black; the head is white at the front, but there is a great deal of black about the eyes: the hinder part of the head is grey, with a bluſh of red; and the back alſo is grey, with more of the red in it; and in the female there is an admixture of green about the edges of the feathers: the rump is white; the throat and the breaſt are white, with a tinge of red diffuſed over them, and the belly is perfectly white in the female, but in the male it is yellowiſh: the wings are entirely black; both the long feathers and the inveſtient ones are of that colour: the tail is moderately long; it is compoſed of twelve feathers, and is variegated with black and white.

This is frequent in many parts of England, and is much eſteemed at table. Authors call it Oenanthe ſive Vitiflora; we the Fallow-finch and the Wheat-ear.

Motacilla nigricans gula flaveſcente.
The black Motacilla, with a yellow throat.

The Stone-chatter.

This is of the bigneſs of the linnet: the head is large, the eyes large, and their iris is hazel, and the beak black: the head in the male is coal-black; in the female it is browniſh: the neck is black on the upper or outer part, but there is on each ſide a white ſpot: the back is black, but the edges of the feathers have a tinge of yellowiſh:

lowiſh: the throat is yellow; the breaſt is yellow, with a tinge of red, and the belly is white.

This is frequent in moſt parts of Europe; it lives principally on heaths, and is very noiſy. All the writers on birds have deſcribed it. Bellonius calls it Rubetra; others, Muſcitrapa tertia.

Motacilla pectore cæruleo, macula flaveſcente, albedine cincta.
The blue-breaſted Motacilla.

This is of the bigneſs of the chaffinch: the head is large; the eyes are hazel, with a tinge of grey; the beak is ſlender, ſharp, and black: the head, the back, and the tail are grey: there is a ſmall white ſpot on each ſide of the head, near the corner of the eye, and from the baſe of the beak to the breaſt there runs a deep blue beak: at the beginning of the breaſt it is terminated by a ſpot of yellow, and in the midſt of it there is alſo a yellowiſh ſpot, ſurrounded with whitiſh; the reſt of the breaſt is white; the belly alſo is white, but under the tail it is yellowiſh. The female is throughout of a paler colour than the male, and ſhe has not that ſpot of white at the eye.

This is frequent in many parts of Europe, but I have not ſeen it in England. Authors call it Ruticilla tertia and Uleg flecklin; others, Avis Carolina.

Motacilla ruffo cinerea, genuum annulis cinereis.
The browniſh-grey Motacilla, with the annules of the knees grey.

The Nightingale.

This is more eminent for the ſweetneſs of it's note, than for it's beauty; it is of the ſize of the linnet, but in ſhape it more reſembles the red-breaſt: the head is ſmall; the eyes are large, and their iris is pale: the beak is duſky, ſlender, and moderately long; the head, neck, and back are of a greyiſh-brown; the upper parts of the wings have a tinge of reddiſh mixt with this, and there is yet more of this colour about the the tail: the throat, the breaſt, and the belly are of a pale whitiſh-grey: the tail is white underneath, and the thighs are alſo covered with white feathers, but the knees are ſurrounded, as it were, with rings of grey.

Authors have all deſcribed it under the name of Luſcinia.

Motacilla gula nigra, abdomine ruffo.
The Motacilla, with a black throat and reddiſh belly.

The Red-ſtart.

This is of the ſize of the chaffinch, but ſlenderer, in proportion to it's thickneſs: the head is ſmall, and ſomewhat depreſſed; the eyes are large, and their iris grey, with a tinge of hazel: the beak is ſlender, oblong, and of a dark colour.

The head, the neck, and the back are are of a bright grey; the anterior part of the head is white: the throat and the ſides of the head under the eyes are black: the breaſt is of a reddiſh colour, and ſo alſo are the rump and the tail, only that two of the feathers in the middle are brown: the female is much leſs beautiful than the male; her head and neck are grey, and her breaſt is pale.

We have this frequently in our orchards and woods; it is a very beautiful bird. Authors call it Ruticilla and Phœnicurus; we, the Fire-tail, the Star-finch, and the Red-ſtart.

Motacilla

Motacilla fuſca gula pectoreque ſubrubentibus.
The brown Motacilla, with the throat and breaſt reddiſh.

The Red-breaſt.

This is of the ſize of the nightingale: the head is moderately large and rounded; the eyes are bright and ſmall, the beak ſlender and brown: the head, neck, and back are of a pale olive brown, with a tinge of grey: the throat and breaſt are throughout of a tawny colour, approaching to reddiſh: the belly is white; the wings and tail of the ſame browniſh colour, but the covering feathers of the hinder part of the wing have a few ſpots of a duſky ferrugineous colour: the legs and feet are brown; the hinder toe long.

This is frequent in our gardens, and ſings finely. Authors call it Rubecula and Erithacus.

Motacilla teſtacea, ſubtus cinerea, pileo obſcuro.
The brown Motacilla, with a black cap, and grey breaſt.

The Black-cap.

This is a very ſmall bird, ſcarce larger than the wren; the top of the head is entirely black; the neck is grey, and the back is of a brown colour, with a very ſtrong tinge of green in it: the throat, breaſt, and belly are of a pale whitiſh-grey; the lower part of the belly only is a little yellowiſh; the long feathers of the wings and tail are brown, but they have a tinge of greeniſh about their edges.

This is very frequent in Italy, and the warmer parts of Europe, and we have it alſo in England. All the writers on birds have deſcribed it. They call it Atricipilla and Ficedula.

Motacilla fuſca, ſubtus alba, pectore maculato.
The brown Motacilla, white below, and with the breaſt ſpotted.

The Cretan Ficedula.

This is a little larger than our wren: the head is ſmall and rounded; the eyes are hazel, and the beak is brown: the head, neck, and back are of a duſky brown: the wings are ſomewhat darker than the back, as is alſo the tail: the belly is white, and the breaſt is grey, ſpotted with black: the legs are very ſlender and brown.

This is frequent in the Eaſt, and in ſome parts of Europe; we have it in England but very rarely. Moſt of the writers on birds have deſcribed it. Some call it Ficedula Cannabina; others, after Aldrovand and Willughby, Ficedula quarta.

Motacilla caſtanea alis nigro cinereoque variegatis.
The cheſnut-coloured Motacilla, with the wings variegated with white and grey.

The Wren.

This is a very minute bird; we have not in Europe any that is ſmaller: the head is large and round; the eyes are dark, and the beak ſlender and brown: the head, neck, and back are of a duſky cheſnut-brown; the rump is of a brighter brown, as is alſo the tail, and all this part is variegated with obſcure and tranſverſe lines of black: the throat is of a pale yellowiſh colour; the middle of the breaſt is ſtill whiter, and the lower part of it is variegated with tranſverſe lines of black: the ſides alſo are variegated in the ſame manner, and the lower part of the belly is of a reddiſh-brown; there are a few round white ſpots on the wings, as alſo on the baſe of the tail: the tail is ſhort, and is generally carried erect.

This is every-where frequent with us, creeping about hedges, and taking ſhort flights. All the writers on birds have named it, and they all call it Paſſer troglodytes.

Motacilla

Motacilla fuſca, ſubtus albida, macula pone oculos griſea.
The brown Motacilla, white underneath, and with a grey ſpot behind the eyes.

The Hedge-ſparrow.

This is of the bigneſs of the red-breaſt: the head is large and rounded; the eyes are ſmall, and their iris is hazel: the beak is ſlender and brown; the ears are large and patulous.

The head, neck, and back are of a mixed brown, compoſed of a reddiſh-tawny and black; the middles of all the feathers being black, and their edges ferrugineous: the head has alſo ſomewhat of a greyiſh tinge, and is ornamented on each ſide with a ſpot; the lower part of the back, toward the rump, has ſomewhat of a greeniſh tinge: the large feathers of the wings are brown, and their edges a reddiſh-brown; there are alſo ſome white ſpots on the others, one on each: the breaſt and throat are grey; the belly and thighs are white; the legs yellowiſh.

This is frequent in our hedges, and ſings very ſweetly. All the writers on birds have deſcribed it. Geſner calls it Curruca; others, Hippolais and Curruca Eliolæ.

Motacilla vireſcens ſubtus cinerea.
The greeniſh Motacilla, with a grey breaſt.

This is of the ſize of the hedge-ſparrow, and has been by many miſtaken for the female of that ſpecies: the head is large and rounded; the eyes are ſmall, and their iris is hazel: the beak is ſlender and pointed; the head, neck, and back are of a duſky olive colour, with a ſtrong tinge of green: the wings are of a ferrugineous brown; the throat is white, and the breaſt is of a pale grey; the belly whiter: the tail is brown, but toward the edges it has a little variegation of white.

Authors call this Ficedula ſeptima. We have it not in England.

Motacilla alis nigro et flavo variegatis.
The Motacilla, with variegated wings.

The creſted Regulus.

This is of the ſize of the common wren, but, it's feathers lying more cloſe and even, it looks ſmaller: the head is a little depreſſed; the eyes are of a deep hazel: the beak is ſlender and brown: the head, neck, and back are of a mixt colour of greeniſh and grey; the breaſt and belly are of a pale grey, rendered duſky by an admixture of the olive brown, and the throat is paler than any other part: the wings are variegated with black and yellow, and on ſome parts with white; the head in the male is ornamented with a yellow ſpot in the middle, and has a creſt of feathers erected at pleaſure.

We have this in England, but it is leſs common than in many other parts of Europe. The authors, who have written on birds, call it Regulus criſtatus, and Parus ſylvaticus.

Motacilla cinereo-virens ſubtus flaveſcens.
The yellow-waſted, greyiſh-green Motacilla.

The Regulus, without a creſt.

This is as ſmall as the preceding ſpecies, and is a very elegant little bird: the head is ſmall, and the eyes of a bright hazel; the beak is very ſlender and ſharp, and of a bright brown: the head, neck, and back are of a very ſingular colour, which ſeems compoſed of grey, green, and brown; upon the whole, it forms a very ſingular kind of olive: the ſides of the head are ornamented with an oblong, yellow line, which runs from the eyes to the hinder part of the head: the throat is of a very pale yel-

lowiſh, approaching to lemon colour; the breaſt and belly are of the ſame colour, only yellower: the long feathers of the wings, and thoſe of the tail, are of a duſky brown, but they are ſomewhat brown at the edges.

This is frequent in moſt parts of Europe; we have it in England, but leſs common than elſewhere. Authors call it Regulus alius, and Regulus alius non criſtatus.

PARUS.

THE beak of the Parus is of a ſubulated form; the point of the tongue is truncated, or, as it were, cut off abruptly, and is terminated by four briſtles.

Parus capite nigro, temporibus albis, nucha lutea.
The Parus, with a black and white head, and a yellow neck.
The great Titmouſe.

This is the largeſt of the whole family of the Pari; the ſize is nearly that of the gold-finch: the head is depreſſed; the eyes are hazel; the beak is brown and bright: the back is of a ſhining black; the top of the head is alſo of a deep gloſſy black, but the ſides of it are white: the upper part of the throat is black, and the ſpot is continued till it joins the blackneſs on the head; there runs alſo an oblong ſpot of black from that of the neck, quite down to the breaſt: the upper part of the neck is yellow, and the ſhoulders, from an admixture of that yellow, and the black of the back, appear greeniſh: the breaſt and the belly are yellow; the wings and tail are greyiſh, and their principal feathers are black, with ſome variegation.

This is frequent in the woods in ſome parts of England, eſpecially about watery places. All the writers on birds have deſcribed it. They call it Fringillago and Parus major.

Parus capite criſtato.
The Parus, with a creſted head.
The creſted Titmouſe.

This is a very pretty bird, but it is conſiderably ſmaller than the former: the head is ſmall; the eyes are hazel; the beak is ſhort and brown: the back is of a gloſſy greyiſh-brown; the wings and tail are of a greyiſh-black: the belly is white, but the feathers have a blackneſs on their inſide: the head is ornamented on the crown with a ſeries of feathers longer than the others, which naturally ſtand in an erect, or nearly erect, poſture: the head itſelf is of a mixed black and white colour; the feathers are all black toward the baſe, and white at the tip; there is a black ſpace behind the eyes, and a black collar about the neck: the tail is ſhort, and the legs are bluiſh. Authors call it Parus criſtatus.

Parus vertice cæruleo, alis albo variegatis.
The blue-headed Parus, with black and white wings.
The blue Titmouſe.

This is a very ſmall bird, it is little larger than our common wren: the head is ſmall and depreſſed; the eyes are hazel, and the beak is black: the anterior part of the head is white; the crown of it is blue, and the ſides or temples white: there runs a blue line from each ſide of the head near the eyes, and joins the blue on the crown; this is continued to the throat, and there ſpreads into a large and elegant black ſpot: the breaſt is yellow; the ſides alſo have their ſhare of yellow: the belly is white toward the hinder part: the long feathers of the wings are black, but blue at the edges; and thoſe which immediately cover their baſes are blue, ſpotted with white: the back in it's upper part is greeniſh, in it's lower darker; the upper part of the neck is white; the legs are black.

This is frequent in moſt parts of Europe. Authors call it Parus cæruleus; we, the blue Titmouſe.

Parus

Parus dorſo cinereo, capite nigro, vertice albo.
The black and white-headed Parus, with a grey back.

The black Titmouſe.

This is of the bigneſs of the common wren: the head is large and rounded, and the beak ſharp; the eyes are hazel and large; the ears very patulous: the head is white on the top, and toward the front the reſt of it is of a fine deep gloſſy black: the back is grey, and ſo is the rump; the breaſt and belly are white: the long feathers of the wings are brown, and the legs are blue.

This is common in all parts of Europe. Authors call it Parus ater and Carbonarius.

Parus capite nigro, temporibus albis, dorſo cinereo.
The grey Parus, with a black head and white temples.

The Marſh Titmouſe.

This is a very pretty little bird: the head is large and flatted; the eyes are of a dark hazel, and the beak is brown: the whole head is of a deep black, except that the temples are white: the back is of a duſky greeniſh-grey; the belly and breaſt are of a whitiſh-grey, but it is only the tips of the feathers that come in ſight, and form this colour, for the body of them is black: the long feathers of the wings are black; the covering feathers, and thoſe of the tail, are of a greeniſh-grey: the legs are blue; the toes long, and the claws black and ſharp.

This is common in our damp woods. Authors call it Parus paluſtris, from it's frequenting wet places.

Parus cauda corpore longiore.
The Parus, with the tail longer than the body.

The long-tailed Titmouſe.

This is a very beautiful little bird; it is larger than the common Parus: the head is large and rounded; the eyes are of a dark hazel, and the beak is black: the head is white, as is alſo the breaſt; the belly is fleſh-coloured: the back is brown, and is variegated in a very beautiful manner with ſpots of black, and the wings are variegated with blue, black, and white: the tail is very long and black.

This is a native of England, and is common in gardens and orchards in many parts of the kingdom. The authors on birds have all deſcribed it; they call it Parus caudatus.

Parus cæruleo, albo, et nigro variegatis.
The variegated black, blue, and white Parus.

The Indian Titmouſe.

This is a very beautiful bird, and greatly reſembles the European kinds, as well in form as in colouring: the head is large; the eyes hazel; the ears very patulous, and the beak black: the whole head and upper part of the neck are of a pale blue colour: the breaſt, the belly, and a part of the throat are white: the wings are of a pale blue toward their top, but their long feathers, as alſo thoſe of the tail, are of a deeper blue: the back is black; all the colours are very bright and gloſſy, and the bird makes a very beautiful appearance, even dried, as we ſee it in ſpecimens.

It is a native both of the Eaſt and Weſt Indies. Authors have deſcribed it under the name of Parus Indicus.

Thoſe who are not aware of the different colouring of the males and females of birds, may extend the family of the Pari to a much larger number.

HIRUNDO.

THE beak of the Hirundo is very ſmall, of a ſubulated figure, crooked, and depreſſed at the baſe: the opening of the mouth is enormouſly wide.

Hirundo rectricibus macula alba notatis.
The Hirundo, with the tail feathers ſpotted with white. **The common Houſe-ſwallow.**

This, though little regarded for it's beauty, is a very elegant bird; it is of the ſize of the linnet, but of a very different form of body, and diſpoſition of plumage: the head is large and depreſſed; the eyes are ſmall, but very bright: the beak is very inconderable; it is ſharp at the point, and flatted at the baſe, but it's angles run a great way up the head, ſo that the opening of the mouth is ſurpriſingly wide: the whole upper part of the body is of an extreamly elegant bluiſh-black, bright, gloſſy, and in ſome degree changeable with the light: the breaſt and belly are of a ſnow-white, and the covering feathers of the under part of the wings are alſo white: the anterior part of the head, and the upper part of the throat, are brown; the long feathers of the wings are black, as are alſo thoſe of the tail, which is forked: the legs are extreamly ſhort, and they are naked, not feathered, as in ſome other ſpecies.

This is frequent in ſummer about our houſes. All the authors have deſcribed it under the names of Hirundo, Hirundo vulgaris, and Hirundo domeſtica.

Hirundo dorſo cæruleſcente, rectricibus immaculatis.
The Hirundo, with a blue back, and no ſpots on the tail feathers. **The Field-ſwallow.**

This is ſomewhat larger than the houſe-ſwallow: the head is large and depreſſed; the beak is ſmall and black; the eyes are very bright, and the noſtrils naked: the head and back are black, but there is a very ſtrong ſhade of deep blue diffuſed over them in ſuch a manner, that in ſome lights they appear entirely and ſolely blue: the front of the head, between the eyes and the baſe of the beak, is of a pure black, without any tinge of the blue: the long feathers both of the wings and tail are brown; the throat, the breaſt, and the belly are white, as are alſo the rump, and the feathers which cover the under parts of the wings: the legs are ſhort, and they are covered all the way down with a kind of white wool.

This ſpecies is very frequent with us about waters, and among hedges. All the authors on birds have deſcribed it. They call it Hirundo agreſtis, and Hirundo ſylveſtris.

Hirundo tota nigra gula albicante.
The black Hirundo, with only the throat white. **The Martin.**

This is larger than the common ſwallow, but it's body is ſomewhat ſhorter and flatter: the head is large and flatted; the eyes are large, and extreamly bright; their iris is hazel: the beak is very ſhort and inconſiderable, but the opening of the mouth is enormouſly wide: the beak is pointed and black, very weak, and depreſſed toward the noſtrils: the whole bird, as well breaſt as back, is of the ſame colour, which is properly a brown ſo very deep, that it approaches to black, and has a tinge of greeniſh over it; only on the upper part of the throat there is a moſt remarkable large ſpot of a greyiſh-white: the wings are very long; the tail is alſo very long and forked: the legs are very ſhort, and the feet ſmall.

It is very frequent with us, and all the writers on birds have deſcribed it. They call it Hirundo apus, and Cypſelus minor.

Hirundo

Hirundo cinerea gula abdomineque albis.
The grey Hirundo, with the throat and belly white.

This is the ſmalleſt of the ſwallow-kind, but in form it perfectly reſembles the common ſpecies: the head is large and depreſſed; the beak is very ſmall, black, and weak; the eyes are very large, and their iris of a hazel colour: the head, back, wings, breaſt, and tail are all of the ſame colour, which is a deep ruſty greyiſh-brown, approaching to black, but with a very ſtrong tinge of green diffuſed over it: the throat is ornamented with a large ſpot of white, and the belly is white: the long feathers in the wings are eighteen in each; the tail is forked, and is compoſed of only ten feathers: the legs are very ſhort, and the feet ſmall.

It is frequent with us about the banks of rivers. All the writers on birds have deſcribed it. Geſner calls it Hirundo riparia ſive Drepanis; and others uſe the ſame name.

Hirundo cauda integra, ore cetis ornato.
The Hirundo, with an undivided tail and briſtles at the mouth.

The Goatſucker.

This is a very ſingular ſpecies, and has, by the generality of authors, been ſeparated from it's true and proper genus, and put among the owls; nay, in Engliſh, we call it the Churn-owl: it is of the ſize of the cuckow, and very much reſembles it in ſhape: the back is of a very beautifully variegated hue; the colours are black, white, and brown; theſe are blended together in very fine undulations, and among theſe there are many ſeparate and larger ſpots of black: the belly is of a pale brown, and there are on it ſome lines of black, broader than thoſe on the back; the breaſt is of the ſame pale colour with undulations of the ſame kind, only ſmaller.

The head is large, in proportion to the body; the ears large and patulous; the beak is inconſiderable, depreſſed at the baſe, ſomewhat hooked at the point, black and ſoft: the feet are ſmall, and the middle toe twice as long as the others: the legs are ſhort and hairy; the tail is long and undivided, and is compoſed of ten feathers.

The feathers of the whole body lie looſe, and are ſoft and beautiful; it is very ſingular, that there ſtand a kind of whiſkers like thoſe of the beaſts of prey about the mouth of this bird; they are compoſed each of eight hairs or briſtles: the opening of the mouth in all the ſwallow-kind is enormouſly large, but in this it is more ſo than in any: the noſtrils are prominent, and of a cylindric figure.

In the male there is a little variegation of white in ſome of the long feathers of the wings, which diſtinguiſhes it from the female, in which ſex there is no ſuch variegation.

We have this ſpecies in many parts of England. Many of the writers on birds have deſcribed it. Bellonius calls it Strix Caprimulgus, Fur nocturnus; others have continued the name Caprimulgus. It feeds on inſects, and flies chiefly in the evening,

PROCELLARIA.

THE beak of the Procellaria is of a compreſſed figure; the upper and under chap are equal in length; the upper is hooked at the point: the noſtrils are of a cylindric form; they run parallel to the length of the beak, and grow to it: the feet are palmated.

Of this ſingular genus there is but one known ſpecies.

PROCELLARIA. The Petrel.

This is an extreamly ſingular bird; the bigneſs of it is about that of our common water wag-tail: the head is large and depreſſed; the ears are broad and open; the eyes are very large; their iris is of a deep hazel, and they have a very piercing aſpect: the beak is ſmall, ſlender, and compreſſed; the noſtrils ſtand very prominent on it, and their openings are ſeparated by a membrane: the beak is of a duſky colour, and black at the tip.

The head is of a deep and very gloſſy black on the crown, and of a ſomewhat duſkier black on the temples: the neck and back are of the ſame deep, gloſſy, and beautiful black with the head, but the rump is leſs gloſſy: the breaſt, throat, and belly are black alſo, but it is a leſs full colour, and leſs gloſſy than on the back.

The tail feathers are twelve, all of an equal length, and black; and the tail, though not ſhort, does not exceed the tips of the wings, when they are cloſed, they being very long: the lower feathers of the rump, which cover the baſes of the long feathers of the tail, are white, with black tips, ſo that the lower part of the rump appears in a great meaſure white.

The wings are very long; the principal feathers of them are totally black, but the covering feathers of the ſecond ſeries have ſome white toward their tips.

The legs are ſhort and ſlender; the thigh is naked, at leaſt half the way up: the feet are large; the toes are but ſlender, but they are connected by a fine thin membrane; there is no hinder toe, but the claw in that part is ſmall, and is connected immediately to the back of the foot: the whole foot is indeed of a very ſingular ſtructure: the membrane which connects the toes, and forms the web, is black, and very thin: the middle toe is ſhorteſt, and has only two joints; the outer is longer, and has four: the interior has three, and is longer than either: the claws are blackiſh, and nearly equal in length.

This ſingular bird has not been known till of late years; it is an inhabitant of the Northern Seas, where it ſkims along the ſurface of the waves with great rapidity. It has the knowledge of an approaching ſtorm, and always, in that caſe, gets under covert of the ſhips that are near: the ſailors, when they ſee no other ſign of a ſtorm, prepare for one on this ſignal, and they are not diſappointed. Dampier and ſome of our other voyagers have deſcribed it under the name of Petrel; other writers have been little acquainted with it. It was firſt mentioned in the Stockholm Tranſactions, under the name of Procellaria, or the Storm-bird; the Swedes call it, Storminaders fogeleir.

THE

The Oxeye Creeper

The Water Ouzel

The Stone Chatter

The White Wagtail

The Wren

The Regulus without a Crest

The Blue Titmouse

The Crested Titmouse

The Longtail'd Titmouse

The Bank Martin

The Black Titmouse

The Black Martin

B. Cole sculp.

THE HISTORY OF ANIMALS.

PART VI.

Of QUADRUPEDS.

QUADRUPEDS are animals which have the body covered with hairs, which walk on four legs, and the females of which bring forth their young alive, not in the egg ſtate, and nouriſh them with milk from their teats.

This ſeries of animals will be conſiderably leſſened in number, by the throwing out of it the frog, lizard, and other amphibious animals, which have already been deſcribed in their place, but which thoſe who confound theſe claſſes have placed under this head. It will alſo be enlarged by the admiſſion of the bat, which, from it's having the forefeet webbed with a membrane, and uſing them, as birds do their wings, in flying, has been generally ranked among that order of animals.

QUADRUPEDS.

Claſs the Firſt.

GLIRES.

THE Glires are diſtinguiſhed by having the fore-teeth only two in number, and thoſe prominent.

MUS.

THE fore-teeth in the Mus are acute, and there are no canine teeth at all: the feet are divided, and the ears are naked.

Mus cauda brevi, corpore fulvo nigroque variegato.
The ſhort-tailed Mus, with a body variegated with black and tawny.

The Leming.

This creature reſembles the common rat in ſhape, but it's tail is ſhorter; it's length is about five inches; it's fur is very fine, and is tinged with a great variation of colours: the

the upper part of the extremity of the head is black, the lower part is paler; the crown of the head is yellowiſh, and the neck and ſhoulders are black: the body is brown, but it is variegated with a great many ſpots of black; theſe are ſmall, of different figures, and are equally diſpoſed over every part, quite to the tail, which is not more than half an inch in length, and is hairy and yellowiſh, with an admixture of black.

The head is of an acuminated figure, large at the baſe, and very ſharp at the point; there are a great number of rigid hairs about the mouth; theſe form a kind of whiſkers, and twelve of them, ſix on each ſide, are longer than the reſt.

The mouth is ſmall, and the upper lip is divided, as in the ſquirrel, and from this there ſtand forth two large and ſomewhat crooked teeth, and on the lower jaw there ſtand two others to anſwer them: the grinders ſtand at a conſiderable diſtance from theſe; they are three, the anterior of them the broadeſt: the tongue is large, and ſo long, that it reaches to the roots of the fore-teeth.

The eyes are ſmall and black; the ears are obtuſe, and are laid backwards on the neck: the legs are very ſmall, and the anterior pair are very ſhort; the feet are hairy, and each is armed with five ſharp, ſtrong, and hooked claws: the hinder legs are ſhort too, but they are ſomewhat longer than the others: the belly is white.

It is very ſingular, that a creature of a tolerably bulky body, and with ſuch very ſhort legs, ſhould be able to run ſwiftly, yet there are few creatures more nimble.

It is frequent in Norway, and ſome other of the northern parts of Europe; it breeds in the mountainous places, but at times comes down into the low country, where the vaſt troops of it deſtroy all the vegetable produce, and, often dying afterwards upon the place, leave a ſtench, which occaſions peſtilential fevers. Olaus Magnus firſt mentioned this creature in his hiſtory of the northern nations, and from him all the ſucceeding authors borrowed what they have ſaid about it. Scheffer calls it Mus montanus; others, Leminus, Mus Norwegicus; the Swedes, Fialmus and Soblemus; the Laplanders, Lammie.

Mus cauda brevi, dorſo nigro-fuſco, ventre albo.
The ſhort-tailed Mus, with a browniſh-black back, and white belly.

This is ſomewhat larger than the common mouſe, and it's body is longer, in proportion to the thickneſs: the head is remarkably large, and the ſnout ſhort and obtuſe: the eyes are ſmall, and not prominent, as in many kinds; the ears are ſhort, broad, of a figure approaching to round, and they are in a manner buried in the fur, which is longer than in the common mouſe.

The tail is very ſhort, and is covered with ſcattered hairs, more numerous than in the common rat, but not at all thick ſet: the legs are very ſhort, and the toes ſlender; the colour is duſkier than in the common mouſe, and, when cloſely examined, has ſome reſemblance to that of the rat, but it is darker, and has a tinge of yellowiſh: the belly is whitiſh, with an admixture of a lead colour grey.

This is frequent with us under hedges, and in paſtures; and it is ſingular that it has eſcaped the notice of ſo many of the writers on theſe ſubjects. Ray deſcribes it under the name of Mus agreſtis capite grandi, cauda brevi; and Agricola ſeems to have meant it, when he talks of a wild mouſe with a large head and ſhort tail; others are ſilent about it.

Mus cauda longa ſubnuda, corpore fuſco cinereſcente.
The browniſh-grey Mus, with a long and almoſt naked tail.

The Rat.

This is a quadruped too well known to need a long deſcription; it greatly reſembles the common mouſe in form, but is at leaſt five times as large; it's colour is a duſky brown, with a greater or leſſer admixture of grey: the head is large at the baſe, conic, and ſharp at the ſnout; the eyes are ſmall and bright; the legs moderately long: the tail is very long and ſlender; it is divided into more than a hundred and fifty annular joints, as it were; it is of a bluer colour than the reſt of the body, and is almoſt naked; the hairs on it being very few, and ſet at diſtances.

This is too common in all parts of the world. The writers on animals have all deſcribed it. Geſner calls it Mus domeſticus major; Ray, Mus domeſticus major ſive Rattus; Jonſton, ſimply and improperly, Glis.

Mus cauda longa villoſa, auribus brevibus.
The ſhort-eared Mus, with a ſhort hairy tail.

The Ground-rat.

This is nearly of the ſize of the common rat, and much reſembles it in it's general form: the head is large; the ſnout ſharp; the eyes black and prominent, and the ears roundiſh and naked, compoſed of a very thin bluiſh membrane, and ſo ſhort, that they are entirely buried under the down or fur of the head: the back is of a very deep duſky brown, approaching to black; the ſides are ſomewhat paler; the belly is of a pale brown, with an admixture of grey: the tail is not more than of half the length of the body, and is hairy as the body; the teeth are yellowiſh.

I ſaw two or three of theſe ſome years ſince in Yorkſhire, but they are not common there; in ſome of the northern parts of Europe they are frequent, and very miſchievous. Few of the authors who have written on quadrupeds have mentioned it. Linnæus ſays it is common in Sweden.

Mus cauda longa corpore nigro flaveſcente.
The yellowiſh-black Mus, with a long tail.

This has more of the appearance of the common mouſe than of the rat, but it is conſiderably larger than that, though much ſmaller than the other: the head is oblong, ſharp at the ſnout, and large at the baſe; the eyes are ſmall, but prominent; the ears are ſhort, broad, and naked: the back is of a duſky colour, approaching to black, but it has ſome tinge of reddiſh-yellow in it; the belly is white: the tail is long, and has ſome hairs on it; they are black on the upper ſurface, and white on the under: the legs are longer, and more ſlender than in the common kinds.

We have this in houſes, and in the fields. Ray calls it Mus domeſticus medius; the other writers have not named it.

Mus cauda longa nudiuſcula, ventre ſubalbido.
The Mus, with a long and almoſt naked tail, and a white belly.

The Mouſe.

This is much ſmaller than the preceding kinds: the head is ſmall and ſhort; the eyes are large, and very prominent: the ears are ſhort and naked; the back is of a deep bluiſh-brown, and the belly is whitiſh.

It is common every-where in houſes and in fields. Authors call it Mus domeſticus vulgaris, and Mus domeſticus minor.

Mus cauda longa piloſa, gula albicante.
The Mus, with a long hairy tail, and a white throat.

The Dormouſe.

This is a very pretty creature; it is of the bigneſs of the common mouſe: the head is ſmall, and not ſo ſharp at the ſnout as in many ſpecies; the ears are broad and ſhort; the eyes are large, bluiſh-bright, and very prominent: the head is of a reddiſh-brown, very bright and ſhining; the back is of a duſky brown, with a tinge of orange colour; the belly is of the ſame colour, but ſtill paler, and the throat is white: the tail is moderately long, and is hairy, as in the ſquirrel.

We have it in our fields and gardens. Moſt of the writers on animals have deſcribed it. Ray calls it Mus avellanarum minor; we, the Dormouſe or Sleeper, from it's naturally ſleeping all the winter part of the year.

Mus cauda longa piloſa, ventre albo.
The white-bellied Mus, with a long hairy tail.

The Italian Dormouſe.

This is ſomewhat larger than the common dormouſe, and is a much handſomer creature: the head is large, and of an elegant colour, a mixt orange and brown: the ears are ſmall, naked, and obtuſe; the eyes are black, large, very bright and protuberant: the back is of a beautiful ferrugineous brown, with ſome tinge of yellow: the belly is white; the tail is long and hairy, in the manner of that of the ſquirrel; it is of a fine orange brown all the way to the tip, where it is white.

This is frequent in Italy, and ſleeps all the winter; we ſometimes have it kept here.

Mus cauda abrupta, digitis connexis.
The abrupt-tailed Mus, with connected toes.

The Water Rat.

This is conſiderably larger than the common rat, and of a different colour: the head is large, and ſharp at the extremity; the teeth are long, and of a yellowiſh colour: the eyes are large, black, and prominent: the ears are ſhort and naked.

The head is of a browniſh colour, with a ferrugineous tinge; the back is alſo of a ruſty brown, with an admixture of grey: the belly is pale; the tail is not ſo long as in the common rat, nor does it grow taper from the baſe to the extremity, as in that ſpecies, but is all the way of the ſame thickneſs, and is abrupt at the extremity: the legs are ſhorter than in the common rat; and the feet are longer, and the toes connected by membranes.

This is frequent about waters, and in ſhips; the banks of the Thames, at low water, often diſcover millions of them. Ray calls it Mus major aquaticus ſive Rattus aquaticus.

Mus capite parvo, cauda lata.
The broad-tailed Mus, with a ſmall head.

The Muſk-rat.

This is larger than the common rat, and very different from it in ſhape: the head is ſmall; the opening of the mouth narrow; the eyes not prominent, and very ſmall; the ears ſhort, broad, and naked, and the teeth yellowiſh.

It is about ſeven inches in length, excluſively of the tail, and it is very bulky, in proportion: the whole body is covered very thick with long and ſoft hair; this is blackiſh on the back, and grey on the belly; the head is of a paler colour, and is covered with much ſhorter hair, and the extremity of the ſnout is ſmall, and formed for burrowing in the ground, in the manner of that of the mole: the tail is longer than

than the whole body; it is of a very ſingular form, being flatted, and is covered with a few ſcattered hairs: the fore-legs are two inches long, and each is terminated by a broad foot, the toes of which are armed with very ſharp claws: the hinder legs are larger and longer; the toes are connected by a membrane, as in the common water rat, for the advantage in ſwimming.

This is frequent in Tartary and Ruſſia, and in ſome other parts of the world, and has a very ſtrong perfumed ſmell like muſk, which is preſerved in the dried ſkins brought over to us, and called Muſk-waſs ſkins. Ray calls it Mus aquaticus exoticus, after Cluſius.

Mus cauda hirſuta, pedibus rubentibus.
The hairy-tailed Mus, with red feet.

The great Sleeper.

This is of the ſize of the rat, but more corpulent: the head is ſhort and thick; the opening of the mouth ſmall; the noſtrils fleſh-coloured; the eyes large, black, and prominent, and the ears large and naked.

The head is of a deep lead colour, with a tinge of brown: the back is of a dark brown, with ſome admixture of grey, but with very little of the blue tinge in it: the belly is white, as are alſo the inſide of the thighs, and the under part of the tail; there is a blackneſs all about the noſtrils, as alſo round the eyes, and the ſame colour is viſible on the extremity of the tail.

This is frequent in many parts of Europe; it retires into caverns in the ground in winter, but it carries into them a very conſiderable ſtore of nuts, and other fruits. All the writers on quadrupeds deſcribe it. Pliny calls it Sorex; Geſner, Mus avellanarum; Ray, Mus avellanarum major.

Mus corpore longiore, cauda brevi.
The Mus, with a long body, and ſhort tail.

The Citille.

This is very different in ſhape from all other of the rat-kind: the head is ſhort and ſmall; the ſnout is ſharp; the opening of the mouth is narrow, and the teeth long and ſharp; the eyes are very ſmall, and not at all prominent: the ears are ſcarce perceptible, but the apertures are very viſible, as in the male: the whole head is of a ſomewhat depreſſed form.

The body is long and ſlender, and reſembles that of the weeſel-kind, rather than the others of this genus: the head and back are of a duſky brown, with an admixture of a ſilvery grey; the belly is paler; the tail is very ſhort.

This is a native of many parts of Europe, but not, that I know, of England. Geſner calls it Mus noricus vel Citillus; and Ray continues the ſame name. The fur is uſed, in many parts of the North, in cloathing. The creatures retire in companies into caverns for the winter.

Mus dorſo rutilo, ventre nigricante.
The Mus, with a reddiſh-brown back, and black belly.

The Cricetus.

This is conſiderably larger than the common rat, and more bulky in the body: the head is ſmall, and pointed at the extremity; the mouth is moderately large; the eyes are bright, black, and prominent, and the ears naked, ſhort, and broad.

The head is of a bright reddiſh-brown on the top, but black on the temples; the back is of the ſame colour with the head, unleſs that it is a little more tawny; the ſides are variegated with a few ſpots of white; the belly is black, but the throat is white: the tail is three inches in length, and thick covered with hairs of a tawny colour,

lour, with a bluſh of reddiſh in it: the legs are very ſhort, and the feet are large; the toes long, and armed with ſharp claws.

It is frequent in the Eaſt, and is very voracious; it has a cuſtom of ſitting upon it's haunches, and, when in this poſition it is ſeen in a front view, it looks like a bear in miniature. All the writers have deſcribed it. Gelenius calls it Arctomys Palæſtinorum; Geſner and others, Cricetus.

Mus cauda elongata nuda, corpore rufo.
The Mus, with a long naked tail, and tawny body.

The Marmotte.

This is the largeſt of the rat-kind; it is bigger than a rabbit, little leſs than a hare: the head is large, and broad at the baſe, but narrow at the extremity; the mouth is ſmall; the teeth are long and ſharp; the ears are ſhort, and, as it were, cut off: the eyes are large and prominent, and they are very bright and black: the body is corpulent, but the legs are very ſhort: the tail is long and naked, and in form greatly reſembles that of the common rat.

The head is of a reddiſh-brown, or tawny colour, with the admixture of ſomething of the orange; the noſe is blackiſh, and there are ſome black whiſkers about it, like thoſe of the cat: the back is of the ſame tawny or orange brown; ſometimes it is deeper, ſometimes paler, and it often degenerates into a kind of black: the back is covered within the ſkin by a kind of fatty matter, even when the reſt of the body is ever ſo bare; this ſeems to have given it, by nature, a defence againſt that intenſe cold which it is to endure for a very great part of the year.

The teeth are yellow; the legs are well covered with hair, and it is longer, and of a paler colour on theſe, and on the belly, than on the back: the feet are formed ſomewhat like thoſe of the bear, and the toes are armed with very ſharp and black claws; it uſes the hinder legs with great familiarity, and often walks on them alone.

It is a native of the mountains in Switzerland and other places, and breeds only on their tops: they ſleep much in the winter, and prepare warm and comfortable lodgings for that period, which they line with fur and dried vegetables, and ſtore with proviſions. All the authors who have have written on animals have deſcribed this. Pliny calls it Mus Alpinus, a name copied by moſt others.

Mus corpore variegato, cauda nulla.
The Mus, with a variegated body, and without a tail.

The Guinea-pig.

This is conſiderably larger than the rat, but leſs than the rabbit, to which it has ſome degree of reſemblance: the head is large and thick; the extremity of it is formed like that of the hare, but more obtuſe, and the teeth are diſpoſed in the ſame manner: the eyes are black and bright, but not very prominent; the ears low, broad, thin, and pellucid: the hair is more like that of a young pig, than of any thing of this kind; and the voice, in ſome degree alſo, reſembles that of the hog-kind, whence, and from the form and ſhape not greatly diſagreeing, we are not to wonder that it has obtained the name of the Guinea-pig.

The legs are robuſt, and not very long, and it has no tail; the colouring is very variable: we moſt uſually ſee it variegated with large blotches of a tawny colour, and white; ſometimes it is all over white, and ſometimes entirely tawny: the fore-feet have four toes; the hinder ones have only three, and the middle one is longer than the other two. The creature is very frequently rubbing it's head with it's fore-feet, in the manner of the rabbit, and it will oftener ſit upon the hinder ones; from this cuſtom, part of the hinder legs is uſually bare and callous. It does not hop in the manner of the rabbit, but walks by a regular and even motion of all four legs, in the manner of the hog; and, when it fights, it ſtrikes with the head, in the manner of the hog.

It is a great breeder, and often will produce eight young ones at a time; it feeds on vegetables of all kinds, and it's fleſh is well-taſted, and has much the flavour of pork. The authors who have written on quadrupeds have all named it. Ray calls it Mus ſive Cuniculus Guineenſis et Americanus Porcelli pilis et voce Cobaya Braſilienſibus dictus. It is common to the Eaſt and Weſt Indies, and lives very comfortably with us.

Mus pilis rigidis, cauda brevi.
The Mus, with rigid hairs, and a ſhort tail.

The Aguti.

This is of the bigneſs of the Guinea-pig, and in many reſpects greatly reſembles it: the head is large; the eyes are prominent, very bright and black; the ears are broad, and very ſhort: the head is, in the general form, like that of the rabbit, but the ſnout is narrower and ſharper, and the upper jaw is ſomewhat longer than the under, as is the caſe in the hog-kind; the upper lip, however, is divided, as in the hare, and through this diviſion are ſeen the teeth, which are long and ſharp: the tail is very ſhort and ſmooth; the legs alſo are ſhort, and almoſt naked, and the anterior ones are ſhorter than the hinder.

The fur is very thick and harſh; the hairs of which it is compoſed are ſtiff, rigid, and ſhining, like thoſe of the hog-kind; the colours are a mixture of brown and reddiſh, with ſome tinge of black.

This is a native of South America; it is a very voracious animal, and holds it's food in the fore-feet, as the ſquirrel, ſwallowing it with great quickneſs. When it is angry, it raiſes the briſtles on the back, and ſtrikes the earth forcibly with it's hinder legs; it is very ſwift in running. Marcgrave calls it Aguti ſive Acuti Braſilienſibus; Ray, Mus ſylveſtris Americanus Cuniculi magnitudine, Porcelli pilis et voce.

Mus fuſcus cinereo maculatus ventre albente.
The brown Mus, ſpotted with grey, and with a white belly.

The Paca.

This is the largeſt of all the Mus-kind; it is as big as a pig of a week old: the head is ſhort, and the extremity or ſnout ſharp, in the manner of the former ſpecies, and the upper jaw is a little longer than the under; the upper lip is divided, and the mouth is furniſhed with a kind of beard: the teeth are ſharp; the eyes are black and prominent; the noſtrils are large and patulous; the ears are ſhort, naked, and ſomewhat obtuſe.

The body is thick and fleſhy; the legs are ſhort, and the fore-ones moſt ſo: the fur is ſhort, but the hairs of which it is compoſed, are thick and harſh to the touch: the back is of a duſky brown, or amber colour: the ſides are very beautifully ſpotted with grey; the belly is white.

It lives in the Eaſt Indies and South America, and in both is very frequent; the noiſe it makes is like that of a hog, and it ſtrikes with the head in the manner of that animal, and raiſes the briſtles on the back, when angry. Marcgrave calls it Paca; Ray, Mus Braſilienſis magnus Porcelli pilis et voce.

Mus dorſo fuſco-nigricante, ventre albo, corpore oblongo.
The white-bellied Mus, with a blackiſh back, and long body.

The Rell-mouſe.

This is not ſo thick in the body as the common rat, but it is longer, and approaches, in ſome degree, to the form of the weaſel: the head is oblong, large at the upper part, but very ſlender at the ſnout; both the jaws are equal in length, and the upper lip is ſplit as in the hare: the teeth are long, ſlender, and ſharp; the eyes are

black and prominent; the ears are ſhort, naked, obtuſe, and rounded: the tail is ſhort and hairy; the legs are ſhort, eſpecially the anterior pair.

The back is rounded and fleſhy; the fur is very thick, ſmooth, and fine; the hair not rigid: the back and ſides are of a very deep brown, approaching to black; the belly is white.

This is a native of the woods of Germany, but is a very nimble and cunning animal, for that it is rarely taken; when ſeized, it bites in a violent manner. Geſner calls it Glis; and other authors have deſcribed it, but it is as if they had never ſeen it.

Mus corpore brevi, lateribus ſtriatis.
The ſhort-bodied Mus, with ſtriated ſides.

This is of the ſize of the common rat, and it's body is as thick, in proportion to the length: the head is ſhort; the ſnout obtuſe, and the upper lip divided; the ears are ſhort, but ſomewhat pointed at the top; the eyes are ſmall, black, and prominent; the teeth are ſharp: the legs are ſhort, and the toes armed with very ſharp claws; the tail is ſhort and hairy.

The back is of a deep brown; the ſides are elegantly variegated with undulated ſtreaks of brown and grey, and the belly is almoſt white.

This is a native of the Eaſt Indies, and lives principally on trees, in the manner of the ſquirrel. Ray calls it Mus Indicus ſtriatus.

SOREX.

THE upper fore-teeth of the Sorex are bifid, and the lower ones are ſerrated: the upper canine teeth are very ſmall, and are four in number. Of this genus there is only one known ſpecies.

SOREX. The Shrew-mouſe.

This is an extreamly ſingular little creature; it is ſmaller than the common mouſe, and much reſembles it in figure: the head is large, and broad at the baſe, but it is terminated by a long, ſlender ſnout, in which are the noſtrils very conſpicuous; the lower lip is ſmaller than the upper, and the whole ſnout is guarded or ornamented with a kind of briſtles: the teeth are very ſingular in their ſtructure, and as ſingularly diſpoſed; the four grinders of the under jaw are acute, and each divided into four parts: the fore-teeth of the ſame jaw are ſhort and ſerrated; the grinders of the upper jaw are alſo four, and they are bifid; the canine are four, and very ſmall, and the fore-teeth of this jaw are bifid and crooked: the ears are ſhort and broad; the legs are ſhort, and the tail is exactly that of the common mouſe.

The head, neck, and back are all of an uniform colour, a duſky brown, with a tinge of the ferrugineous: the belly is white; the whole creature has a very diſagreeable ſmell.

It is very frequent in our corn-fields, and under dry hedges; and in the country ſometimes comes into houſes. The cats will kill it, as the other reptiles of it's kind, but they will not eat it. All the writers on quadrupeds have deſcribed it. Ray calls it Mus Araneus, and the reſt in general preſerve the ſame name; we call it the Hardy-ſhrew, or Shrew-mouſe.

SCIURUS.

THE fore-teeth of the Sciurus are prominent, and there are no canine teeth: the legs are formed for climbing and for leaping.

Sciurus fuſco-ſubrubens ventre albido.
The reddiſh-brown Sciurus, with a white belly.

The common Squirrel.

This is a ſmall-bodied animal, but it is ſo well covered with fur, that it appears much larger than it truly is: the head is ſmall, and of a figure approaching to oval, but pointed at the extremity; the eyes are large and bright; the fore-teeth ſharp and prominent: the tail is very long, and covered with a long and fine hair, in ſuch manner as to equal the body in apparent thickneſs.

The back and ſides are of a brown colour, with an admixture of a tawny red; the belly is perfectly white; the colour, however, is not invariable.

There are ſquirrels of this ſpecies in Poland that are black; and in Ruſſia they are, in general, of a darker or lighter grey. All the writers on quadrupeds have deſcribed it under the name of Sciurus and Sciurus vulgaris. We have inſtances of it's becoming perfectly white.

Sciurus griſeus cauda minore.
The grey Sciurus, with a ſmaller tail.

The American grey Squirrel.

This is twice as large as the common ſquirrel: the head is large, oval, and ſharp at the extremity or ſnout; the eyes are very large, bright, and prominent; the ears are ſhort; the mouth is ſmall, and the teeth ſharp and prominent: the body is more corpulent than in the common ſquirrel, and the tail, though large and buſhy, is not ſo long, in proportion, as that of the common kind: the legs are very robuſt; the whole back and ſides are of a dark iron grey, variegated with black in clouds, ſtreaks, and blotches, and very beautiful: the belly is paler; the legs are pale toward the body, but the feet are black.

This is frequent in the woods in North America, and throws itſelf with great force and rapidity from tree to tree. Ray calls it Sciurus Americanus cinereus major.

Sciurus cauda maxima griſeo-nigreſcens.
The blackiſh Sciurus, with a very large tail.

The Ceylon Squirrel.

This is of the ſize of the common ſquirrel, but ſtill ſlenderer in the body; it's weight is almoſt nothing: the head is ſmall, oval, but more ſharp at the ſnout than in any other ſpecies: the eyes are black, large, and prominent; the mouth is ſmall; the whole upper part of the body is of a grey colour, approaching to black, and down the ridge of the back there runs a ſtreak of abſolute black, formed of hairs much more ſtiff than thoſe of any other part, and in ſome degree reſembling briſtles: the belly is very pale, but is not abſolutely white: the legs are very ſlender, and of a duſky grey; the feet are blackiſh, and the toes long: the tail is very long, and is very thick, covered with a long and fine down, variegated with white and black.

This ſpecies is peculiar to the Eaſt, and is no where ſo frequent as in the foreſts of the iſland of Ceylon. Ray calls it Sciurus Zeylanicus pilis in dorſo nigricantibus.

Sciurus cauda teretiuſcula, auribus latis nudis.
The round-tailed Sciurus, with ſhort, broad ears.

The brown American Squirrel.

This, on a curſory view, has more of the appearance of ſome of the weaſel-kind, than of the ſquirrel: the head is ſmall and oblong; the mouth narrow, the eyes black, not very large, but prominent, and the ears naked, membranaceous, and roundiſh; the creature is larger than our ſquirrel: the back is of a deep brown, approaching to black; the ſides have a tinge of reddiſh among the brown; the belly is ferrugineous: the tail is long, and of a rounded form; the legs are very ſlender, and nearly black.

It is a native of many parts of America. Some authors call it, ſimply, Sciurus Americanus.

Sciurus hypochondriis prolixis volitans.
The Sciurus, with the ſides extended.

The flying Squirrel.

This is a very beautiful, as well as a very ſingular creature, though truly a quadruped, having the advantage, in ſome degree, of flying; it is much ſmaller than our common ſquirrel, and it's head is ſo ſlender, that it's weight is leſs than could be imagined: the head is oval, ſhort, and obtuſe; the mouth is ſmall, and the teeth ſlender, but prominent and ſharp; the eyes are very black and prominent; the legs are very ſlender, and the tail is of a ſingular figure, and different from that of any other of the ſquirrel-kind; it is long and broad, or flatted, and the creature does not, on any occaſion, elevate it along the back, as the common ſquirrel.

The back and ſides are of a deep and duſky grey; the belly is white, and, at the commiſſure or joining of the two colours at the ſides, there runs a long line of black: the ſkin of the ſides is extended and lax, and is continued both along the fore and hinder legs, ſo that the creature can at pleaſure extend it. This is it's prolix; when it leaps from tree to tree, it is very light and nimble, and can take ſhort leaps without any aſſiſtance from this ſtructure; but when it would go to a tree at conſiderable diſtance, and to which the mere elaſticity of the hinder legs could not carry it, this membrane is extended, and ſupports it in the air, nor does it want a limited power of vibration in it, which carries it on ſtill farther, and makes it anſwer many of the purpoſes of wings.

Sciurus rufo-nigreſcens lateribus variegatis.
The darker-coloured Sciurus, with variegated ſides.

The Barbary Squirrel.

This is of the ſize of the common ſquirrel, and greatly reſembles it in form: the head is ſmall and oval; the eyes are large, bright, and prominent; the ears are ſhort, broad, and obtuſe: the mouth is ſmall, and the teeth ſharp, but not large: the back is of a deep but very beautiful colour; a tawny brown, with a conſiderable admixture of black: the ſides are variegated with oblique lines of tawny and white; the belly is of a pearly colour or white, with ſome admixture of blue: the legs are ſlender, and the tail is long, large, covered with fine thick and deep fur, and variegated with white, and a paler tawny than that of the back or ſides, and often the white is blended entirely with that colour: the toes are long and ſlender, the claws black.

This is a native of Africa, and of ſome parts of the Eaſt Indies; it's fur is very fine. Geſner calls it Sciurus Getulus; Cluſius, Muſtela Africana. Thoſe who depend on the colour only, for diſtinction of ſpecies, may enlarge this family very greatly, for the ſame ſpecies is often ſubject to many variations in this reſpect; but theſe are what are at preſent known to be truly and certainly diſtinct.

LEPUS.

THE upper fore-teeth of the Lepus are duplicated, the under ones are ſimple; there are no canine teeth: the ears are long, and the legs are formed for running.

Lepus cauda abrupta, pupillis atris.
The Lepus, with an abrupt tail, and black eyes.

The common Hare.

The hare greatly reſembles the rabbit in form, but it is larger, and ſomewhat longer, in proportion to it's thickneſs: the head is large, oval, and not very acute; the mouth is ſmall; the upper lip divided; the eyes large, black, and prominent; the ears remarkably long; the fore-legs are ſhort, but the hinder ones are very long, furniſhed with muſcles of a ſurpriſing ſtrength; by this ſtructure of the legs, it is qualified for running at a ſurpriſing rate: the prominence of the eyes is ſo ſingular, that the creature ſeems to have a power of ſeeing every way at once with them; and it is ſaid, that they are not cloſed, even when the creature ſleeps. As an attention to danger is the great means of this creature's eſcaping it, the ears are calculated in the ſame manner for anſwering that purpoſe: they are always in a poſition to receive the leaſt ſounds, and are moveable with a ſurpriſing eaſe.

The hare is a native of almoſt all parts of the world; it lives ſolitary, and remains quiet all the day, only feeding in the night. In the northern counties it becomes white in winter, only that the ears continue grey, and their tips black. In ſome places they are grey all the year, in others white; with us, and, in moſt parts of the South of Europe, the colour is a tawny, with a ferrugineous tinge, but this is not determinate: the tail is ſhort, downy, and abrupt. All the writers on quadrupeds have deſcribed it, and all under the ſame name Lepus.

Lepus cauda breviſſima, pupillis rubris.
The red-eyed Lepus, with a very ſhort tail.

The Rabbit.

This is, though a ſmaller, a handſomer creature than the hare, and not only in different countries is of different colours, as that is, but has a great variety even in the ſame: the head is ſmall and ſhort; the eyes are large, prominent, and red; the mouth is ſomewhat larger, in proportion, than that of the hare: the ears are very long, and the legs are, in the ſame manner, as in that ſpecies, of different length; the hinder pair being much longer than the fore ones. The general colour of the rabbit, in this country, is a pale browniſh-grey on the back, and white on the belly, but we have it darker, of a ſilvery grey, and altogether white.

It is common to moſt parts of the world; and all the authors who have written on quadrupeds have deſcribed it, and all under the ſame name Cuniculus.

Lepus cauda elongata.
The long-tailed Lepus.

The Siberian Rabbit.

This is of the ſize of our common rabbit, but the body is ſomewhat thinner, in proportion to it's length: the head is ſmall, oval, and obtuſe; the eyes are very large and prominent, and of a ferrugineous colour, with a changeable tinge of green: the ears are very long, and the mouth is ſmall, but the teeth are large: the fore-legs are remarkably ſhort and ſlender, but the hinder pair are proportionably longer, and more robuſt than in our hare: the tail is very remarkable; it is conſiderably long, and takes off greatly from the reſemblance to the hare or rabbit-kind: the colour is very various; they are formed of all the degrees of grey, from the very paleſt to what is nearly black: the belly in all is pale and whitiſh, and in winter they are all over

white. Many of them, during the ſummer months, are very beautifully variegated with oblique and tranſverſe ſtreaks of black and grey.

It is a native of Ruſſia and Tartary, and the fur, which is very fine and long, is much valued. Some few of the naturaliſts have deſcribed it; they have called it Cuniculus Sibericus.

Lepus cauda nulla.
The Lepus, without any tail.

The Tapeti.

This is ſomewhat ſmaller than our rabbit, but it perfectly reſembles it in ſhape: the head is ſmall and rounded; the eyes are large, black, and very prominent; the mouth is ſmall, and the teeth ſhort; the ears are very long: the hinder pair of legs are greatly longer than the fore ones, and there is no tail, not ſo much as the rudiments of one; the want of this gives a great ſingularity to the appearance of the creature: the back is of a deep tawny colour; the belly is white: the head is of a paler colour than the reſt, and there is a redneſs in the front of it; the throat is white: there is ſometimes more, ſometimes leſs, of the whiteneſs in this part; and even when the belly is not white, as is ſometimes the caſe, this part ſtill is ſo.

It is a native of South America. Marcgrave calls it Tapeti; Ray, Cuniculus Braſilienſis Tapeti dictus.

Lepus auribus brevioribus obtuſis.
The Lepus, with ſhort and obtuſe ears.

The Aperea.

This is a very ſingular ſpecies; it ſeems to be of a middle kind, between the hare and the rat, but this is only in appearance: it's legs, eyes, &c. are of the true form of thoſe of the hare, and the ears have the appearance of thoſe of the rat; but, though ſhort and obtuſe, they are not rounded nor naked, as in that genus. It is ſmaller than our rabbit, and the body is ſlenderer; the head is oval; the eyes are large, black, and prominent; the lip is divided, and the mouth is ſmall: the fore-legs are ſmall and ſhort, the hinder pair very long and robuſt.

The back is of a duſky tawny colour, with an admixture of a ferrugineous brown; the ſides are paler: the belly is white; there is no appearance of a tail, not even the leſt rudiments of ſuch a part; the rump is paler than the reſt of the body.

This is a native of the Braſils. Marcgrave has deſcribed it, and from him others. The natives call it Aperea; Ray, and the reſt of the zoologiſts, Cuniculus Braſilienſis Aperea dictus. It lives in the manner of the rabbit, and burrows holes in the ground for it's retreat.

CASTOR.

THE upper fore-teeth of the Caſtor are excavated at right angles; there are no canine teeth: the grinders are complicated; the feet are palmated, and formed for ſwimming.

Caſtor cauda ovata plana.
The Caſtor, with a flat oval tail.

The Beaver.

This is a very large animal; the length of a full-grown one, meaſuring from the end of the ſnout to the tip of the tail, is near four feet; and it's breadth, in the lower part of the body, a foot: it's weight is between thirty and forty pounds.

The head is large, and, from the very extremity of the noſe to the hinder part, it is compreſſed, and is nearly as broad as it is long: the eyes are ſmall and black; the ears are alſo ſmall, ſhort, obtuſe, and in ſome degree rounded, and they are hairy on the outſide, and ſmooth on the inner: the fore-teeth are only two in each jaw; they are large, prominent, broad, and obliquely cut off, as it were: they are white on the inſide,

inſide, but on the outſide they are of a beautiful yellow, with a tinge of red: the neck is thick and ſhort.

The fore-legs are robuſt, and the feet have each five diſtinct toes: the claws are obtuſe and rounded; they reſemble in ſhape the nails of a human hand, and are of a dun colour: theſe legs ſerve in the purpoſe of arms, and the creature holds up it's food to it's mouth in them, as the ſquirrel: the palm or inner part of the foot, and the different lengths and diſpoſition of the fingers, are juſt as in the human hand.

The hinder feet are very different from theſe; the toes are connected together by a black, thick, and ſtrong membrane, in the manner of thoſe of a gooſe, and they are terminated by oblong, obtuſe, and black claws or nails: the body is covered with two kinds of fur; they are different in length, colour, and every other circumſtance, and are both arranged in the ſame ſituation in all parts: the ſhort fur immediately covers the body, the long hangs farther from it; the long fur is compoſed of hairs of the thickneſs of thoſe of a man's head, of about an inch and a half in length, and of a deep blackiſh-brown colour, and a very gloſſy ſurface; theſe are very rigid and ſtrong, and are ſo ſolid, that, when cut aſunder, there can be no cavity diſtinguiſhed in them, even by the aſſiſtance of the microſcope: the ſhort fur is compoſed of hairs of not more than half an inch in length, extreamly thin, and as ſoft as the moſt downy plumage of a bird; this is of a paler colour than the other. The otter has this double covering of different fur as well as the beaver, and ſo have ſome other animals, eſpecially thoſe which roll in the mud, or dive under water; the uſe of the inner coat ſeems to be the keeping the water from immediate contact with the body of the creature.

The tail of the beaver is of a very ſingular kind; it is of an oval figure, broad, flat, black, and has a ſcaly appearance, like the ſkin of fiſhes: it is near a foot in length, and is about three inches broad at the baſe, near five inches acroſs the middle, and a little ſmaller at the very extremity, whence it terminates in an oval figure.

The penis is of a bony ſtructure, and is hid within the belly of the animal; under it are ſituated the bladders, containing the medicinal ſubſtance, called Caſtoreum, which the vulgar have ſuppoſed to be the teſticles of the animal. The teſticles in the male are ſituated near the follicle of caſtors, but, diſtinct from them, their place is under the oſſa pubis.

The beaver is a native of many parts of the world; it was once frequent in England, but the ſpecies is, at this time, like that of the wolves in Ireland, utterly extinct here. All the writers on quadrupeds have named it; they call it Caſtor and Fiber.

Caſtor cauda, longa, lanceolata plana.
The Caſtor, with a long, flat, lanceolated tail.

The flat-tailed, ſmall Beaver.

This is a very little animal, in compariſon of the former, and has ſcarce any thing of the appearance of the genus, but, when examined, is found to poſſeſs all it's characteriſtics. It is of the ſize of the common mole, and very much reſembles it in the ſhape of the body, but the length of the legs and tail afford a very obvious diſtinction. The head is ſhort and acute; the eyes are ſmall, as in the mole; the ears are alſo ſmall, the body is corpulent: the tail is equal to the body in length, and is of a flatted figure, and has a few ſcattered hairs on it: the fore-legs are ſhort, and the hinder ones longer: the back is of a deep ferrugineous brown, with an admixture of tawny and of black; the ſides are tawny; the belly is white: the toes of the hinder feet are connected by a membrane, for the uſe of ſwimming.

This is a native of many of the northern parts of the world; it generally lives about the banks of rivers, and burrows itſelf holes in the ground for it's ſecurity and defence. Authors have confounded it with the Mus Exoticus of Cluſius, but without reaſon. The fur is much eſteemed in Ruſſia; it wants the perfumed ſmell of the ſkin of the Mus Exoticus, and Cluſius has been idly cenſured for denying it to this.

HYSTRIX.

HYSTRIX.

THE fore-teeth of the Hyſtrix are obliquely truncated; there are no canine teeth: the ears are of a figure approaching to round; the body is covered with prickles or ſpines.

Hyſtrix manibus tetradactylis, plantis pentadactylis, capite criſtato.
The creſted Hyſtrix, with four toes on the fore-feet, and five on the hinder.

The Porcupine.

This is a conſiderably large animal, but, with the ſingular covering of it's ſpecies, it appears much more ſo than it truly is; it ſomewhat reſembles the badger in ſhape: it's length, from the noſe to the tail, is about two feet, and the whole body is covered with a kind of briſtles: theſe on the ſhoulders, legs, ſides, and belly are of a deep and gloſſy black; on the middle of the back, the hips and the loins, and on the tail where the ſpecies have their origin, they are variegated with black and white: theſe in figure and conſiſtence perfectly reſemble the briſtles of a hog, and are quite diſtinct from the ſpines or quills.

The neck of the creature is ſhort; the head is thick and obtuſe; the noſtrils are very large; they are not, however, open and patulous, as in ſome animals, but formed of a tranſverſe ſlit: the upper lip is ſplit in the middle, in the manner of that of a hare, and the front of the head is ornamented, in the manner of that of the cat, with long whiſkers; theſe are black, and have their origin about the noſtrils: the opening of the mouth is not very large; the fore-teeth are two in each jaw; they are large, ſtrong, bent inwards, and obliquely truncated: the grinders are eight in each jaw; the eyes are very ſmall, and their iris is blue.

The ears are very like that of the human ſpecies; about theſe there is a quantity of ſoft hair, wholly unlike that of the reſt of the body, and under the lower jaw there is alſo a quantity of ſoft and fine down.

The top of the head is decorated with a very ſingular creſt, formed of briſtles of a great length, not leſs than eight inches; theſe ſtand erect, and the creſt is continued along the neck to the ſhoulders: theſe briſtles are ſome of them black, ſome white, and ſome variegated, in a very beautiful manner, with both thoſe colours.

The legs are ſhort, the feet large, and the claws not very ſharp; there are five toes on each of the hinder feet, and only four on each of the others, and, of theſe, one which is the exterior is larger than the reſt, and reſembles a thumb: the briſtles which cover the whole body are thick, and compreſſed at the baſe; they ſtand each on a ſhort and ſlender pedicle, and terminate in a fine point: the form of theſe is ſingular, but that of the ſpecies is much more ſo.

This ſpines or quills, as they are commonly called, are of two kinds; ſome are ſhorter, thicker, ſtronger, and more ſharply pointed, having a kind of double edge, like the ſhoemaker's awl; the others are longer, weaker, and more flexible; theſe are a foot long, and are compreſſed at the point: the ſpines of the firſt kind are white at the baſe, and of a duſky cheſnut colour on the upper part; the others are white at each extremity, and are variegated with black and white in the middle.

The tail is about four inches long; it is armed with numerous ſpines, diſpoſed in ſeveral annular ſeries, and at the extremity of it, inſtead of theſe ſpines, there are ten or twelve tubular bodies of the ſame thickneſs with them, but only of about half their length; theſe ſtand on ſlender pedicles, and are open at the end, and all the way tranſparent.

The

The porcupine is a native of the warmer parts of Europe, and many other places. All the writers on quadrupeds have deſcribed it. They call it Hyſtrix and Hyſtrix vulgaris.

Hyſtrix pedibus tetradactylis, cauda exerta ſeminuda.
The Hyſtrix, with four toes on the hinder feet, and an exerted, almoſt naked tail.

The American Porcupine.

This is ſmaller than the European porcupine, and it is armed alſo with ſhorter ſpines, but they are more numerous, and more rigid; it's length, from the extremity of the noſe to the tail, is about ſixteen inches; it's breadth, over the middle of the back, ten: the head is ſmall; the eyes are round, prominent, and very bright: the ears are ſmall, but rounded, and are in a manner buried under the ſpines; the mouth is ſmall; the upper lip is divided, as in the hare: the teeth are large, bent inwards, and cut off obliquely at the ſummits: the anterior part of the head is decorated with whiſkers, in the manner of the cat, but they are very rigid and black: the legs are ſhort, and have each four toes to the foot; the tail is a foot long, and the extremity of it is covered, but that not very thickly, with briſtles like thoſe of the hog; the reſt is naked.

The whole body is covered with very robuſt and rigid ſpines, of three inches in length, and under theſe there is a ſofter down, of more than an inch in length; two thirds of each ſpine from the baſe are brown, the upper part is black, and the very tip is white: they are all hollow, in the manner of the barrels of a quill, and adhere but looſely to the ſkin.

This is a native of many parts of America. Marcgrave calls it Cuanda, and Hernandez, Flaquatzin.

Hyſtrix pedibus pentadactylis, cauda exerta.
The five-toed Hyſtrix, with an exerted tail.

The East Indian Porcupine.

This is a large and unwieldy animal; it is larger than the European porcupine, and much more corpulent, in proportion to it's length: the head is large, oval, and obtuſe; the eyes are not very large, but they ſtand prominent, and are black; the ears are broad, obtuſe, and low: the upper lip is divided, and the teeth are two in the front of each jaw, long, thick, bent inwards, and obliquely truncated at the extremity: the legs are ſhort, and the feet have each five toes, which are conſiderably long, and armed with large but obtuſe claws: the tail is oblong, and the ſpines are large, ſharp, and robuſt; they are variegated with a cheſnut brown, white, and black, and make a very beautiful, as well as a very formidable, appearance.

This is a native of the Eaſt Indies, but few of the writers on beaſts have met with it.

Hyſtrix pedibus pentadactylis, cauda truncata.
The five-toed Hyſtrix, with a truncated tail.

The Malacca Porcupine.

This is of the ſize of a ſucking pig, and is not unlike that animal in form: the head is larger, in proportion, than in any other ſpecies; the eyes alſo are large, but they are not ſo protuberant as in many ſpecies, in which they are ſmaller: the ears are ſhort, broad, and rounded; the upper lip is divided, and the teeth are long, crooked, obliquely truncated, and very white: the legs are ſhort, and the feet have each five toes; the tail is ſhort and truncated: the whole body is covered with a harſh but gloſſy fur, compoſed of tawny briſtles, and among this there ſtand a vaſt number of ſpines, variegated with tortoiſeſhell colour, and yellow, and with a little white: theſe are of two kinds, as in the common porcupine; ſome large and long, ſome ſhort, but more robuſt than the others, and more looſely fixed in the ſkin. It is theſe ſhorter

quills, not the long ones, that the world ſuppoſes, and too many who ought to have known better, aſſert, that the creature throws off, by way of darts, when it is attacked. There is no truth in the account; the creature has no power of diſcharging any of them, nor do they ſerve for any other purpoſe than the ſpines of our common hedge-hog, that is, to defend it againſt other animals, which attempt to ſeize on it with their mouths.

This ſpecies is a native of many parts of the Eaſt, but few of the writers on quadrupeds have been acquainted with it. The Pedro de Porco, or famous Porcupine Bezoar, is taken from the gall-bladder of this ſpecies, and is not properly a Bezoar, though honoured with that name.

DIDELPHIS.

THE fore-teeth of the upper jaw of the Didelphis are two obtuſe, and four conic, on each ſide: Thoſe of the lower jaw are eight, and very ſmall; the canine teeth on each ſide are three.

Didelphis mammis intra abdomen.
The Didelphis, with the paps within the abdomen. **The Opoſſum.**

This is a conſiderably large, and an extreamly ſingular, animal; it's length, from the extremity of the noſe to the rump, is about fifteen inches; it's tail is equal in length to the whole body: the head is long, narrow, and acute, and has much of the appearance of that of the hog's; the ears are an inch and a half long, an inch in breadth, and obtuſe: the eyes are large, but not prominent; the mouth opens to a conſiderable width; the noſe is, as it were, truncated and obtuſe; the noſtrils are large, and there are a number of long, black whiſkers, both about the noſe, and on the ſide of the head, beyond and under the eyes: the legs are long and robuſt; the feet are large; the toes long and ſlender, and the claws ſharp, long, and crooked.

The creature is covered with a double fur; a longer, which is thin, and compoſed of elegant dark brown gloſſy hairs, conſiderably thick and rigid; a ſhorter, which is very thick-ſet, and is of a pale brown colour, and very ſoft and downy: the bodd is ſlender, rounded, and naked, like that of the rat, and is camellated on the ſurface in the ſame manner, as in that animal; it is dark-coloured toward the baſe, but of a whitiſh-brown toward the extremity.

The ſkin of the belly in the female is looſe and large, and there is an aperture in it, at which it occaſionally takes in the young. It was at one time ſuppoſed that the young, in this ſpecies, were received into the uterus, or at leaſt into the cavity of the creature's body, but that is without all foundation. They are only taken into a cavity formed by nature between theſe two membranes, and preſerved from all ſort of dangers there.

This is a native of many parts of North America. Authors call it the Poſſum and Opoſſum.

Didelphis mammis extra abdomen.
The Didelphis, with the teats without the abdomen. **The African Rat.**

This is ſmaller than the Opoſſum, and it's legs ſhorter, by which advantages, together with the likeneſs of the tail to the rat-kind, it has miſled the few authors, who have been acquainted with it, to rank it among the rat-kind: the head is of an oval figure, but a little depreſſed, and acute at the ſnout; the eyes are large, and they ſtand very prominent: the ears are ſhort and obtuſe; the opening of the mouth is large, and the teeth are moderately long and ſharp: the back is fleſhy; the legs are robuſt, and the creature runs and climbs in an uncommon manner with them.

This



The Rat



The Ground Rat

The Citille



The Guinea Pig



The Pica



The Squirrell



The Hare



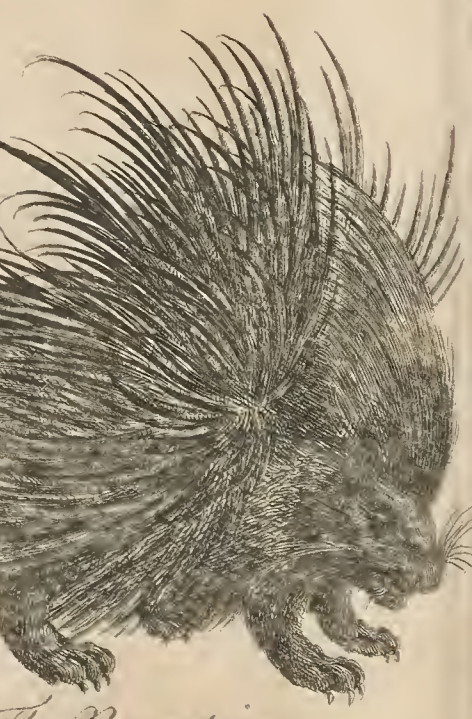
The Marmotte



The Rabbit



The Aguti



The Porcupine



The Beaver



The Opossum

B. Cole Sculpt.

This is a native of many parts of Africa, and has been deſcribed by Siba, under the name of the Mus Africanus Hayopolin dictus. Moſt of the zoologiſts have omitted it.

QUADRUPEDS.

Claſs the Second.

AGRIÆ.

THE Agriæ have no teeth: the tongue is very long and cylindric. Of this ſingular claſs there are only two known genera. The Myrmecophaga and Manis.

MYRMECOPHAGA.

THE body of the Myrmecophaga is covered with hair; the ears are of a roundiſh figure.

Myrmecophaga manibus tridactylis, plantis pentadactylis.
The Myrmecophaga, with three toes on the fore-feet, and five on the hinder feet.

The great Ant-bear.

This is a very ſingular and a very beautiful creature; it is of the ſize of a maſtiff dog: the head is large, and of a ſingular figure; the ſnout being at leaſt a foot in length, and of a cylindric figure: the opening of the mouth is ſmall, and there are no teeth in it: the tongue is rounded, and pointed at the end, and, when fully exerted, is a foot and half in length. This is, in the uſual ſtate, carried doubled in the mouth; but, when the creature is to eat, it thruſts out upon an ant-hill, and when it is covered with thoſe creatures, draws it in again.

The eyes are ſmall and black; the ears are ſhort and rounded; the tail is very long, very large, and covered with a thick fur; the creature has a great facility in moving it, and wipes every part of the body with it at pleaſure: the neck is ſhort; the body is robuſt and fleſhy: the legs are robuſt, and about a foot in length; the fore-ones are about an inch longer than the hinder.

The fur on the back is black, but with an admixture of a hoary white: the head and neck are covered with hair of the ſame colour, but ſhorter; this ſtands forward: that on the back and tail is ſix inches long, and lies backward; that on the ſides is ſhorter, and has it's direction downward: the fore-legs are of a greyer or whitiſh-hoary colour, only each of them toward the foot has a ſpot of black; the breaſt is covered with one great black ſpot, which reaches each way to the ſides, and half way down the body, and is terminated at top by a white line: the hinder legs are black; the tail is of a flatted or broad figure, and is covered with hairs long, rigid, and thick like horſe-hairs.

It is a native of many parts of America; and from ſome reſemblance of it's hinder legs to thoſe of the bear, and it's feeding on ants, it has been called Urſus formicarius by Cardan and others. Marcgrave calls it by it's Braſilian name, Tamandua Guacu.

Myrmecophaga

Myrmecophaga manibus didactylis, plantis tetradactylis.
The Myrmecophaga, with only two toes on the fore-feet, and four on the hinder feet.

This is ſmaller than the other, and the legs alſo are ſhorter, in proportion; otherwiſe it greatly reſembles it in ſhape: the head is ſmall, oval, and continued at the front into a very long and ſlender ſnout of a rounded figure, and conic, or growing gradually ſmaller all the way, from the top of the head to the extremity: the ears are ſhort, naked, and rounded, their apertures very large; the eyes are moderately large, and very bright and ſparkling: the body is rounded and fleſhy; the legs are ſhort and robuſt, and the tail is very long, and of a flatted figure, and very buſhy, or covered thick with long hairs.

The back is of a very dark colour, and there run all along it a ſort of briſtles pointing backward; the reſt of the body is covered with ſhorter, but very rigid and ſtiff, hairs: the creature is not ſwift of foot; either this or the other, indeed, may be overtaken, at their beſt ſpeed, by a man who runs but a moderate pace: this has a long fleſhy tongue like the other, and feeds in the ſame manner, by thruſting it out, where there are plenty of inſects, which gather about it, and are devoured, when it is taken in again.

It is a native of the Braſils, and ſome other parts of South America, but has been deſcribed by none of the writers on this ſubject. We have ſkins of it ſent over to us preſerved.

Myrmecophaga manibus tetradactylis, plantis pentadactylis.
The Myrmecophaga, with four toes on the fore-feet, and five on the hinder.

The leſſer Ant-bear.

This is a very beautiful animal; it's ſize is that of the fox, or ſmaller, and it's figure not greatly unlike that of that animal: the head is moderately long, the neck ſhort, and the body about a foot in length, and very fleſhy: the tail is like that of the other ſpecies, and is nearly equal to the body in length: the legs are ſhort, and are not ſo thick and ſtrong as in the others.

The head is altogether of a conic form, but not entirely ſtraight; it bends a little downwards; the baſe towards the ears is thick, and from thence it gradually grows ſmaller to the other end, when it is very ſharp; the mouth is ſmall, and there are no teeth in it: the ears ſtand erect, they are ſhort and open; the eyes are very ſmall and black; the tongue is eight inches long, rounded, and tapering gradually from the baſe to the point.

The animal is, in general, of a pale whitiſh-yellow colour; the fur is deep, and the hairs of which it is compoſed are rigid and ſtiff, only the back and belly have in the male a tinge of blackneſs, and the hairs are longer there than in any other part: the tail is well covered with hair all over, except at the extremity, where it is naked: there are two broad lines of black on the ſides of the neck, one on each ſide; they are continued down to the ſhoulders, and thence run to the extremity of the back, where they unite.

This creature lays very faſt hold of any thing with it's fore-feet; it has alſo a way of hanging itſelf to the boughs of trees, by twiſting the naked extremity of the tail round them. It ſleeps all the day with the head between the fore-legs; in the evening it goes in ſearch of food.

It is common in many parts of South America. Marcgrave call it Tamandua J.

MANIS.

THE body of the Manis is covered with a kind of ſcales; there are no ears. Of this ſingular genus there is only one known ſpecies, which has been confounded with the lizards.

MANIS. The ſcaly Lizard.

This is a creature of great beauty, and perhaps one of the moſt ſingular in the world; it's aſpect has a great ſhew of terror, but it is the moſt inoffenſive creature imagnable, having neither inclination, nor the leaſt power, of doing hurt, and feeding only on the ſmalleſt inſects.

It is in form ſomewhat like the lizard, but not all ſo in any other reſpect, and it's covering is of the moſt extraordinary kind imaginable. It is about four feet in length, and it's body in the broadeſt part, which is toward the hinder legs, is about ten inches in breadth; it is of a rounded figure on the back: the legs are ſhort, they ſtand at about a foot diſtance; the reſt of the creature, from the hinder part to the extremity, is a tail broad, thin, and between two and three feet in length; it is not connected to the hinder part of the body, as in the generality of quadrupeds, but is continuous with it.

The head is ſmall, of a conic figure, about three inches in diameter at the baſe, and thence gradually growing ſmaller to the ſnout, which is ſharp and naked; the reſt of the head is covered with the ſame ſort of ſcales with thoſe of the body, only they are ſmaller: the eyes are moderately large; there are no ears, nor are there any teeth in the mouth, but the tongue is ten inches, or more, in length, fleſhy, a little flatted, of the thickneſs of a child's finger, and pointed at the end.

The whole upper ſurface of the creature, the back, and the outſides of the legs are covered with an armature of ſcales: the belly and the inſides of the legs are naked; the ſcales are of a firm ſubſtance, and have very much the appearance of tortoiſe-ſhell; they are, on the body, two inches in length, more than an inch in breadth, and of an oval figure, and each terminates in a kind of ſpine: the baſe is deeply ſtriated, and theſe lines are continued three fourths of the length of the ſcale, but the reſt is ſmooth, and of a natural poliſh. The whole creature is of a brown colour; the ſtriated part of the ſcales is of a red duſky brown, the ſmooth poliſhed part has an admixture of yellow: the ſides of the body, and yet more thoſe of the tail, are of a ſerrated form, the ſcales terminating one over another at ſome diſtance: the legs are ſhort, but very robuſt, and the claws are very remarkably ſtrong and thick.

This is a native both of the Eaſt Indies and South America, but it is leſs frequent in the latter. It lives in the woods, and as it's legs raiſe it very little from the ground, and it's colour is that of decayed leaves, and the ſcales with which it is covered have alſo the ſhape of them; it has very little to diſtinguiſh it, among thoſe remains with which the ground is ſtrewed in foreſts, unleſs when in motion. It feeds on inſects as the ant-bear does, and takes them in the ſame manner, thruſting out it's tongue, till covered with them, and then drawing it in loaded with the food. Bontius, Cluſius, and others call it Lacertus ſquammoſus. I purchaſed two very perfect ſpecimens of it, the one in ſpirits, the other dried at the late Duke of Richmond's ſale, and from theſe the figure in the adjoining table has been made.

QUADRUPEDS.

Claſs the Third.

SYLVIÆ.

THE Sylviæ have the fore-teeth, both in the upper and under jaw, four in number; and the teats are ſituated, not on the belly, but on the breaſt.

Linnæus has diſtinguiſhed this claſs by the name of Anthropomorphæ, beaſts having the form of the human ſpecies. It is an aſſertion of that author, that he could find no diſtinction in characters between man and the monkey. I am apt to believe few would join with him in this opinion, but ſtill fewer, in the putting the ignavus or ſloth in the ſame claſs; ſince, whatever unlucky likeneſs there might be between the monkey-kind and ourſelves in form, this uglieſt of the creation can have no claim to ſuch a reſemblance. The genera of this claſs are only the two, the Bradypus and Simia.

BRADYPUS.

THE face of the Bradypus is covered with hair: the claws are of a ſubulated form; there are no ears, nor are there any middle teeth.

Bradypus manibus tridactylis, cauda brevi. The Sloth.
The Bradypus, with three toes to the fore-feet, and a ſhort tail.

This is a very extraordinary animal, both in figure and qualities; it is hard to ſay of what other it is equal to in ſize, ſince it is like none in ſhape; the length of the body is about a foot, and it is corpulent, unleſs when it has ſuffered by long hunger, as is indeed often the caſe. When well fed, it's thickneſs is equal to it's length: the neck is ſhort and thick; the tail is extreamly ſhort: the legs are robuſt, and about five inches long; the fore-pair are a little longer than the hinder.

The feet are flatted or plain, in the manner of thoſe of the bear or monkey, but they are extreamly narrow, and ill-calculated for walking: the claws are very long and ſharp; they are hollowed on the under ſide, and pointed at the extremity, and they are of a pale yellowiſh colour, and of a horny ſtructure.

The head is ſmall and round; the mouth is alſo ſmall, and of a turbinated form: the face, in ſome degree, reſembles that of the monkey-kind, but it is covered with ſhort hair, not naked, as in that creature: the noſe only is naked, ſmooth, elate, and black: the teeth are ſmall; the eyes are ſmall and black, and have, at all times, a ſleepy aſpect: there are no ears; the tail is obtuſe.

The colour of the whole animal is a pale greyiſh-brown; the fur is very thick and deep, and is compoſed of extreamly ſoft hairs, which move about every way with the leaſt breath of wind: there runs a brown blackiſh line down the middle of the back, but, excepting for this, the hair there is of a paler colour than elſewhere: the hairs of the neck are longer than thoſe of any other part; they hang on each ſide in manner of a mane.

It is the ſloweſt mover of all the quadrupeds; it is generally ſeen on trees, climbing in a very deliberate manner from one part of them to another; on the ground it's motion is ſtill ſlower; the traverſing a ſpace of fifty yards is the labour of a day for it: it is uſually ſeen on the top of tall trees, by way of ſecurity: it feeds on their leaves and bark,

bark, and never drinking. It is extreamly timorous, and the head is continually thrown from one ſide to another, as if in alarms at every noiſe: it cries like a young kitten.

It is frequent in many parts of America. Marcgrave calls it Ai ſive Ignavus; Cluſius, Ignavus and Agilis; we call it the Sloth.

Bradypus manibus didactylis, cauda nulla.
The Bradypus, with only two toes on the fore-feet, and without any tail.

The Ceylon-ſloth.

This is a very ſingular animal, and is a ſtill ſlower mover than the American ſpecies; it's body being proportionately more bulky, and the feet narrower, and worſe formed for walking, than in that ſpecies: the head is ſhort; the whole face hairy, excepting only the tip of the noſe, which is naked and blue: the eyes are ſmall, and appear half ſhut; the back has ſome breadth, and the hips in particular are large; the back is of a very dark brown, with an admixture of greyiſh and of olive; the ſides are paler, and have more of the olive: the belly is duſky; the teeth are ſmall; the noſtrils wide and elate, it has no tail.

This ſpecies has been yet ſeen no where, except in the iſland of Ceylon. It is frequent in the woods there, and is ſo ſlow in it's motions, that it is eaſily taken or deſtroyed.

SIMIA.

THE face of the Simia is naked; the claws are rounded and flattiſh, in ſome degree like the nails on the human hand, and there is an eye-lid each way.

Simia acauda ſubtus glabra.
The Simia without a tail, with a ſmooth belly.

The Satyr.

This ſpecies has an unlucky reſemblance to the human form, but it is the moſt miſchievous, bold, and vicious of the whole monkey-kind; it ſeems highly probable, that the ſatyrs, in the antient poets, had their origin from imperfect accounts of this creature.

It is one of the larger kind; it uſually walks erect on the two hinder legs, and is in that poſition more than four feet in height: the face has no hair on it, and carries too ſtriking a reſemblance of ſome of the leſs beautiful of our own ſpecies; the eyes are large, and have an upper and under eye-lid, exactly as in our own ſpecies: the ears are broad, flat, and open in the manner of ours: the noſtrils have much the ſame ſituation, though the whole of the noſe is not ſo determinate in figure, or ſo elevated; the teeth alſo have the form and ſituation of our own, and even the eye-laſhes are like ours. Theſe ſingularities are not found in any degree in the other quadrupeds; the obſervation of them in this is as old Ariſtotle, and the modern obſervations perfectly confirm it.

The whole back, ſides, and hinder part of the legs are hairy; the whole anterior part, in the erect poſture of the creature, is ſmooth; the breaſt is naked, and has the nipples ſituated on it, juſt as in the human ſpecies; and the whole, when viewed in this direction, has very little reſemblance to any thing of the quadruped-kind: the fore-legs have very much the appearance of arms, and the creature bends and directs them in the ſame manner, and the hinder ones reſemble legs; they are more robuſt than the others: the paws of the fore-feet have the form of the human hand, but in a rude and coarſe way; and the claws are large, flat, and rounded in the manner of our nails: the paws of the hinder feet are yet more like hands; in this the ſimilarity is, in ſome degree, loſt, for the toes are not ſhort, as on our feet, but longer, and more like fingers than thoſe of the fore-ones; the anterior toe on theſe reſembles the thumb

of

of the human hand, being removed to a great diſtance from the next, and being alſo ſlender and long; whereas that on the fore-paw is ſhort, and immediately joined to the other.

The hair on the back of this ſpecies is of a deep tawny, with an admixture of olive, and is long, thick, ſoft, and very gloſſy; the anterior, or properly the under part of the body, for ſuch it is, when the creature ſtands on all four, is of a dull lead colour: the breaſt is paler than any other part, and the nipples purple: the buttocks are naked and of the ſame colour with the belly; it has no tail, not even the rudiment of one.

This is a native of Africa; I once ſaw a full-grown one ſhewn as a curioſity in London: it was a male, and when it ſtood erect, as it had been practiſed to do with a ſtick in it's hand, it had a very affecting, general reſemblance of a decrepid old man. It was very quarrelſome, and would throw any thing that lay in it's way at thoſe who came to ſeet it, if the eye of the ſhowman were not continually upon it.

Simia acauda unguibus indicis ſubulatis.
The tail-leſs Simia, with the claws of the fore-toes ſubulated.

This is very frequently ſeen in an erect poſture, and then is about three feet in height: the face has much the appearance of ſome ill-formed one of the human ſpecies: the noſtrils are very wide: the noſe much depreſſed; the eyes large, and the ears very broad and low: the whole body in this ſpecies is hairy; the breaſt and belly, as well as the back: the fur is deep and gloſſy; is of a tawny colour, with an admixture of olive on the back, and is yellower on the breaſt and belly: the legs are very long and ſlender, and it has not the leaſt appearance of a tail.

It is a native of many parts of the Eaſt Indies, and is very fierce in it's wild ſtate, and will never be tamed ſo as to make it ſafe to keep it among human creatures.

Simia acauda clunibus tuberoſis.
The tail-leſs Simia, with large buttocks.

This is more apt to walk on the hinder legs only, than any other ſpecies, and nature ſeems to have provided for it's keeping firm in that poſture, by making it's lower part of ſo remarkable a bulk and weight: the face is perfectly naked, and of a blackiſh colour; the ears are very large, and they lie almoſt flat upon the head; the eyes are remarkably large, prominent, bright, and ſtaring; the noſtrils turn up, and are very wide; the noſe is depreſſed, and the mouth is large, and well furniſhed with teeth: the whole body is covered with an olive-coloured fur, which is deeper, thicker, and harſher on the back than on the belly: the legs are long, but they are not ſo ſlender as in ſome other ſpecies: the buttocks are very large, protuberant, fleſhy, and in part naked; the naked portion is of the ſame colour with the face: the feet are formed in the manner of the human hand; and the claws or nails are broad, rounded, and of a bluiſh colour.

This is a native of many parts of the Eaſt, and is eaſily tamed, and leſs miſchievous than many of the others. Proſper Alpinus has mentioned it, as have alſo ſome others.

Simia acauda capite majore.
The great-headed Simia, with no tail.

This is more frequently ſeen on all fours than erect: the head is remarkably large, though the monkey is but of a moderate ſize; when erect, it ſcarce meaſures three feet: the face is naked, and very ugly; the eyes are large; the noſe is ſtrangely depreſſed and flat; the ears are large and low, and the noſtrils open and turned up: the forehead is flat and very broad: the whole body is covered with hair, but it is thin,

and

and ſhort on the breaſt and belly, though very thick and long on the back; it is of a tawny olive, with an admixture of black on the back, and paler on the belly: the legs are long and ſlender, and the head in walking hangs down in a remarkable manner.

It is a native of many parts of the Eaſt, and is a ſullen, ſulky animal. Proſper Alpinus calls it Simia acauda rufo-nigricans, but this is not exactly the colour of that which I ſaw.

Simia cauda brevi, ore vibriſſato.
The whiſkered Simia, with a very ſhort tail.

The Baboon.

This is conſiderably different from all the preceding ſpecies: the head is large, and hairy on the hinder part, but the face is naked; the eyes are ſmall and depreſſed; the noſe is flat, and the noſtrils wider; it is, upon the whole, remarkably ugly in it's aſpect: the body is bulky, and the legs are ſtrong, but not ſo long as in the ſeveral former ſpecies: the buttocks are large and fleſhy, and there is at their baſe the rudiment of a tail, but it is very ſhort and inconſiderable: the back is of a dark olive; the belly is paler. The creature uſually walks on all fours, but it can occaſionally ſtand on the hinder feet only, with great facility.

It is a native both of the Eaſt and Weſt Indies, and is often brought alive into Europe: it is a large kind, and, when erect, makes a very awkward appearance; the mouth is, in a very particular manner, furniſhed with whiſkers, which ſeem to impede the eating, rather than to be of any real uſe to the creature. Many of the writers on quadrupeds have deſcribed it under the name of Papio, and Papio major.

Simia caudata imberbis auribus comoſis.
The tailed Simia, with hairy ears.

This is a ſingular ſpecies, and is leſs ugly than the preceding, though very far from a beauty; it frequently walks on the hinder legs, and, when erect, is about two feet and a half high: the face is oblong, flatted, naked up to the forehead, and of a blackiſh colour, but with ſome tinge of yellow: the eyes are large, prominent, and hazel; the noſtrils are wide; the mouth is well furniſhed with teeth, and the ears are broad, low, and hairy: the legs are long and ſlender, and the tail is longer than they, and, when the creature ſtands erect, draggles on the ground: the fur is ſhort, but ſoft and gloſſy; it is of a duſky tawny-yellow on the back, and brown, but with ſome tinge of yellow, on the belly; the feet are black.

This is a native of the Eaſt, and is frequent in the woods there. Alpinus and ſome other writers have deſcribed it, but it has ſeldom been ſeen alive in Europe.

Simia caudata, imberbis, fuſca, unguibus pollicum ſubrotundis.
The long-tailed, brown Simia, with the claws rounded.

This is often ſeen erect, and is, in that poſture, conſiderably more than two feet high: the head is ſhort, rounded, and conſiderably large; the forehead is prominent; the eyes are large and black; the noſe is depreſſed, and the noſtrils are large: the colour of the naked ſkin of the face is a deep colour, between blue and purple, but ſo dark, that the whole appears at a ſmall diſtance black: the ears are ſhort and broad; the back is of a deep brown colour; the fur long and gloſſy: the legs are long and ſlender; the feet, and particularly the hinder ones, have very much the appearance of hands, and the claw of the ſhorter toe, which reſembles the thumb, is very broad and rounded.

This is frequent in the woods of China, and many other parts of the Eaſt; it is eaſily tamed, and becomes very familiar and tractable, but full of tricks. Some of the

writers on quadrupeds ſeem to have been acquainted with it, but their accounts of the ſeveral ſpecies of this large genus are ſo very confuſed, that it is hard to aſcertain the abſolute ſpecies, which they have meant, under any of them.

Simia ſubflaveſcens pectore albente, cauda floccoſa.
The yellowiſh Simia, with a whitiſh breaſt, and a woolly tail.

This is ſmaller than any of the former, but more beautiful than either of them; when erect, it meaſures very little more than two feet in height: the head is ſmall, oblong, and flatted; the eyes are large, and very piercing; the noſe is leſs depreſſed than in moſt of the others; the noſtrils are elevated and open; the ears are low, and not ſo broad as in many of the other ſpecies: the legs are long and ſlender; the tail is long, and covered with a thick, woolly down, eſpecially on it's lower part: the back and ſides are of a brown colour, with a very conſiderable tinge of yellow; the back part of the head and neck are ſtill more yellow: the breaſt is white, as is alſo the throat, and the naked part of the face is of a duſky dun colour.

This is frequent in South America, as alſo in many parts of Africa, and the Eaſt Indies; but, though ſeen in conſiderable plenty in the woods, it is ſo light, ſo nimble, and ſo ſhy, that it is rarely taken: when caught, it is eaſiy familiariſed, and becomes very tractable.

Simia caudata naribus bifidis.
The long-tailed Simia, with bifid noſtrils.

This is a larger ſpecies than the preceding, when erect, as it frequently ſtands in it's wild ſtate, it is two feet and a half high: the head is long but ſlender, and not much depreſſed: the forehead is oval; the eyes are prominent and grey; the noſe is depreſſed toward it's baſe, but it turns up at the extremity, and the noſtrils are elate and bifid: the ears are low, and conſiderably broad; the teeth are large and ſharp: the body is not thick, and the legs are proportionately ſmall; the feet are formed very like the human hand; the tail is long and ſmall; the back is of a deep olive-brown; there are no whiſkers or beard about the mouth; the belly is tawny, but the breaſt is of the ſame olive colour, with the ſides only paler.

This is a native of the Braſils. Marcgrave and Piſo have deſcribed it, and from them others.

Simia caudata collo pectoreque jubatis.
The tailed Simia, with a mane on the neck and breaſt.

This is an extreamly ſingular ſpecies: the head looks ſmall, in proportion to the body; but that is rather owing to the buſhy mane which is under it, than to any real deficiency in ſize: the forehead is depreſſed; the eyes are large and prominent; the noſe is ſhort and broken, and the tip of it turns up; the noſtrils are very wide, and of a rounded figure: the ears are ſhort, broad, and woolly. The creature, when it ſtands erect, is about two feet four inches in height; the legs are ſlender; the feet formed perfectly like hands: the body is covered with a moderately deep fur of a gloſſy brown, but the neck and breaſt are ornamented with a very deep hairineſs, in manner of a mane.

This is a native of South America. Marcgrave has deſcribed it.

Simia caudata auribus genubuſque barbatis.
The tailed Simia, with tufts of hair at the ears and knees.

This, when erect, is two feet ſix inches high: the head is large, oblong, and depreſſed; the forehead is ſomewhat prominent, but leſs ſo than in moſt ſpecies; the noſe is flatted, and the tip of it turns very little up; the noſtrils are wide and oval; the eyes are large and black; the ears are low and broad, but they have each a tuft of hair or fur, longer than that of the body, and of a pale greyiſh-brown colour, which gives a very ſingular appearance to the face: the body is ſlender; the legs are long and ſlender; the hinder feet are formed very much in the manner of the human hand, and the fore-ones have ſomewhat, but leſs, of that appearance; the toes being ſhorter, and the inner one, which repreſents the thumb, is very ſhort and inconſiderable, and not placed at a diſtance, as the thumb of the human hand.

The fur is of a very bright and beautiful brown, with a tinge of a tawny yellow: there are tufts of hair at the knees of all the legs, as well the hinder ones as the others, like thoſe of the ears, and of the ſame greyiſh-brown colour; the tail is long.

This is a native of the Braſils, and is ſometimes brought into Europe. Marcgrave and Piſo have deſcribed it. It is common in the woods there, and it's tufted knees diſtinguiſh it at ſight from all the other ſpecies.

Simia capite comoſo.
The hairy-headed Simia.

This is ſufficiently ugly, but the reſemblance which the long hair of the head gives it to the human face is very ſtriking, and indeed ſhocking. It is of the larger kind: when erect, as it very frequently walks by choice, it is near three feet high: the head appears large, by means of the hair, but it is not, in reality, any bigger than uſual in the other ſpecies: the face is oval and naked; it is of a tawny colour, much like that of ſome of the darkeſt of the Moors: the hair falls down the ſides of it, as that of the human head, and is of an extreamly dark colour; the eyes are black and prominent; the forehead is rounded; the baſe of the noſe is depreſſed, and it's end turned up, as in moſt of the other ſpecies.

The body is not bulky; the hinder legs are robuſt, but the fore-ones are ſlender: the feet are formed more like the human hand, than thoſe of any other ſpecies: the back is of a deep olive brown; the breaſt has ſomewhat of a tawny hue, mixed with the olive colour; the belly has ſome little admixture of a whitiſh or greyiſh, but the duſky browniſh olive is the reigning colour throughout; the tail is moderately long.

This is a native of the Eaſt; it is frequent alſo in ſome parts of Africa. Proſper Alpinus and ſome others have deſcribed it; but the generality of thoſe who have done ſo, ſeem not to have ſeen it. We had one in great perfection ſhewn in London, in the year 1751, under the name of a Man-Tyger, from which this deſcription was taken.

Simia caudata, barbata cauda ſeminuda.
The bearded Simia, with the tail half naked.

This is a ſingular and an ugly ſpecies; it ſeldom ſtands erect, but, when it does, the height is about two feet three inches: the head is ſhort and oval; the eyes are ſmall, and have a kind of a ſleepy aſpect, as in the Ignavus or ſloth: the ears are low, broad, and naked; the noſe is broken down, as it were, at the baſe, and turns up at the end: the noſtrils are frightfully patulous; the mouth is wide, and the teeth are numerous and large: the beard is compoſed of moderately long, rigid, and thick-ſet hairs, and gives a very ſingular aſpect to the creature: the body is more bulky or corpulent

pulent than in moſt others; the legs are not ſo long as in the generality of the monkey-kind, and they are very robuſt: the feet are made leſs in the form of hands, than in moſt others: the whole body is of a deep, ferrugineous brown, but the breaſt and belly are paler than the back: the tail is moderately long, and is in part hairy, and part naked; the naked part looking as if meant to be taken hold of.

It is a native of the Braſils. Marcgrave has deſcribed it.

Simia caudata barbata, cauda floccoſa.
The bearded Simia, with a woolly tail.

This is one of the ſmalleſt kind; the height, when it ſtands erect, is not ſo much as two feet: the head is long, but remarkably ſlender; the forehead is low; the noſe depreſſed, and turning up at the head; the eyes are black and depreſſed; the mouth is ſurrounded with a moderate beard: the body is ſlender, and the whole creature has a lighter appearance than the others: the legs are long and ſlender; the tail long, thick, and floccoſe.

The back is of a deep but gloſſy colour, ſeeming a mixt hue of brown, ferrugineous, and olive; the belly is paler: the breaſt, the legs, and the tail have ſome tinge of yellowiſh.

This is a native of the Eaſt and Weſt Indies. Marcgrave has deſcribed it, and we ſometimes ſee it brought over alive in our Eaſt India ſhips.

Simia barba cana, cauda ſimplici.
The Simia, with a hoary beard, and naked tail.

This is about two feet four inches high, when it ſtands erect: the head is remarkably ſmall, and of an oval form; the eyes are large and prominent; the ears are very broad, low, and of a corrugated ſurface, greatly reſembling thoſe of the human head: the beard is grey, and has much the reſemblance of that of an old man.

The body is bulky, and the legs are rather robuſt than long; they are covered with a ſhort, ſmooth down, but their feet are not ſo like the human hand, as in many of the ſpecies: the back is of a deep olive colour; the face is naked and black; the breaſt is of a pale brown, and the belly ſtill paler; the tail is long and naked.

This is a native of Africa, and we have alſo had it from ſome parts of the Eaſt. Cluſius and others have deſcribed it. It ſeems to have been, indeed, one of the firſt known ſpecies.

Simia cruribus longiſſimis, facie nuda.
The long-legged Simia, with no beard.

This is an extreamly ſingular ſpecies, and has an awkwardneſs about it, that diſtinguiſhes it from all the others: the height, when it ſtands erect, is two feet nine inches; the body is very ſlender, and the head long, but narrow: the forehead is oval; the baſe of the noſe is depreſſed very deeply; it's end turns up, and the noſtrils are wide. The eyes are large, black, and prominent; the ears very low, and conſiderably broad: the legs are remarkably long and ſlender, more ſo, indeed, than in any other ſpecies: the tail is alſo very long and ſlender, and all the way naked: the colour on the back is a deep and beautiful olive, with a very prevailing tinge of the green; the breaſt is paler, and the belly whitiſh: the face is black, and ſo are the feet; the claws are very broad, round at the ends, and of a deep blue.

I never ſaw any more than one of this ſpecies; that was ſent over, as a preſent to the late Duke of Richmond, by Sir Thomas Robinſon, at that time governor of Barbadoes.

Simia

Simia caudata fuſco-ferruginea.
The ferrugineous brown Simia.

The Rat-ape.

This is one of the ſmalleſt of the monkey-kind; it is not larger than the common rat, but, though of a duſky colour, it has a peculiar pleaſantneſs or chearfulneſs of aſpect: the head is ſmall; the forehead is low; the eyes are large and bright, and their iris is of a light hazel: the noſe is depreſſed toward the top, and is ſomewhat turned up, but obtuſe at the extremity: the noſtrils are large; the teeth are ſmall and white, and the creature is almoſt continually ſhewing them by grinning: the neck is ſhort; the body is tolerably fleſhy; the legs are ſlender, robuſt, not remarkably long; the tail is very long and naked, and has greatly the appearance of that of the rat. The colour is a mixt ferrugineous brown and grey, with ſomewhat of an under colour of yellowiſh; the belly is darker than the back or ſides.

It is a native both of the Eaſt and Weſt Indies, but few of the writers on quadrupeds have deſcribed it. Marcgrave mentions one like it, but it is not certain it is the ſame.

QUADRUPEDS.

Claſs the Fourth.

FERÆ.

THE fore-teeth of the Feræ are ſix each way; the canine teeth are longer than the others.

URSUS.

THE fore-teeth of the Urſus are of a conic figure, and are emarginated on the inner part; the inferior ones are lobated: the canine teeth are placed at a diſtance from the grinders, and are on each ſide two; the hinder tooth is very ſmall: the feet are formed for walking, and, in their uſual way of being placed down, the creature treads upon the heel. The penis is bony.

Urſus cauda abrupta.
The Urſus, with an abrupt tail.

The common Bear.

This is a large but an uncouth and unſightly animal; it grows to different ſizes in different places, from that of a maſtiff-dog to the bigneſs of a ſmall heifer: the whole creature is covered with a thick and deep fur in ſuch manner, that it appears rather a ſhapeleſs lump, than an animal: the head is large and long; the neck is ſhort, and very thick; the thighs are long, but the under part of the legs ſhort, and it has a knee-pan or patella at that joint.

The fur is deep both on the back and the belly, but, when ſtripped, the ſkin is remarkably thick on the former part, and very thin on the latter: the hairs which compoſe the fur are not rigid and harſh, as in the lion and tyger, but rather ſoft and woolly; they are ſomewhat curled alſo, much more ſo than in the goat, but not nearly ſo much as in the ſheep-kind: the brain is in vaſt quantity; the ſkull is thin, but firm, and the eyes are very ſmall.

The feet are each divided into five toes, the hinder ones as well as the fore-ones; that which anſwers to the thumb on the human hand, or great toe on our feet, is ſituated on the contrary ſide, in the place of the leaſt toe, or little finger; they are all

ſhort, thick, and in a manner ſhapeleſs: the claws are very firmly united to the extremities of the toes; it has no tail, but yet it has a lengthened os coccygis: the body is, in reality, ſlender, though it appears enormouſly bulky, under that vaſt load of fur with which it it is covered.

The bear is a native of America, and of many of the northern parts of Europe. Toward the pole it is very large and white; in other places it is ſmaller, and of a black or ruſty brown. All the writers on animals have named it, and all under the common name Urſus.

Urſus cauda elongata.
The Urſus, with an elongated tail.

This creature grows to the ſize of a large maſtiff-dog, or more, and is bulky, in proportion: the head is long, of an oval form, and narrow; the eyes are ſmall; the noſtrils are large, and the mouth is furniſhed in a very formidable manner with teeth: the legs are ſhort, but they are remarkably thick; the feet are large, and are ſpread upon the ground in walking; the creature treading upon the heel as the human ſpecies, not in a more raiſed manner, on the anterior part of the foot, as the reſt of the quadrupeds.

This is frequent in the northern parts of Europe. Wormius has deſcribed it.

F E L I S.

THE fore-teeth of the Felis are ſmall, obtuſe, and equal: the tongue is armed with a kind of ſpiculæ, which have their points bent backwards: the feet are formed for climbing, and the claws may be drawn back at the creature's pleaſure.

Felis cauda elongata floccoſa, collo piliato.
The Felis, with an elongated floccoſe tail, and a mane on the neck.

The Lion.

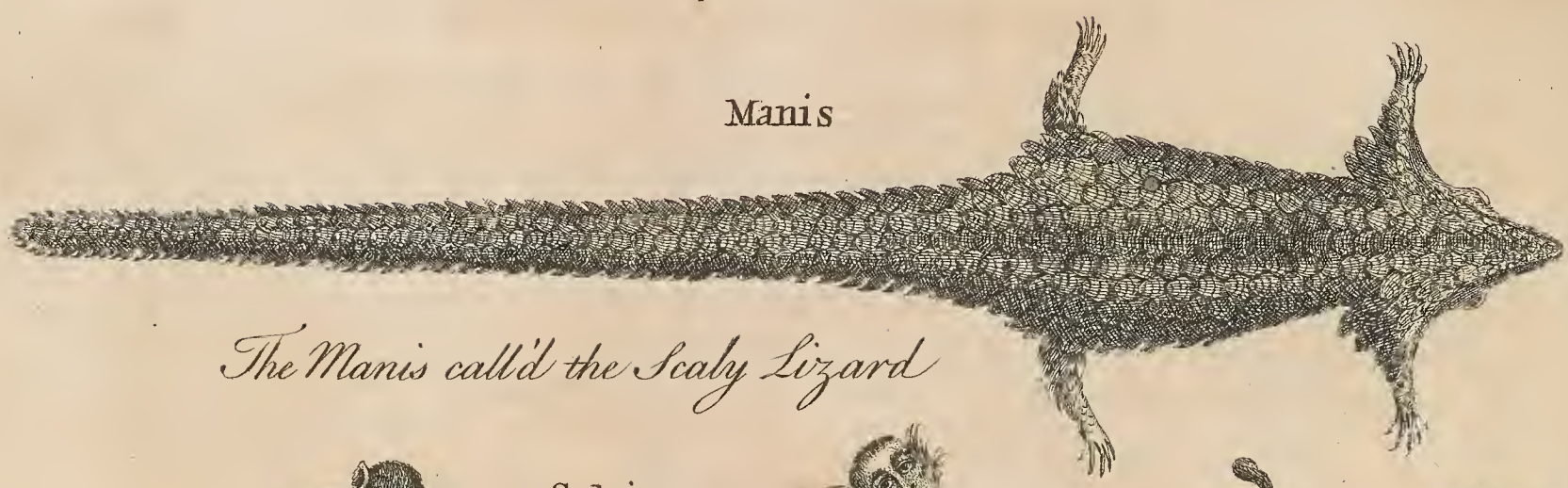
This is the ſtrongeſt and the fierceſt of all quadrupeds: it is taller than the largeſt maſtiff, and more bulky, but the fore-part is over big, in proportion to the hinder, where it is lank, and wants that majeſty of appearance it has in front.

The head is large, and the breaſt broad; the bigneſs of the head is owing to the great quantity of muſcular fleſh which covers the ſkull, and to the breadth of the jaw-bones: the width of the breaſt is only apparent; the breaſt is, in reality, narrower and more compreſſed than in the common dog, but the quantity of long hair that hangs over this, gives it the external breadth: the neck is very thick, ſtiff, and rigid: the antients ſuppoſed, that it conſiſted in the ſceleton of one continued bone, but that is not truth, it is formed of vertebræ or joints as regularly as in other animals; only the ſpinoſe apophyſes of thoſe joints are longer than in other animals, and the ligaments by which they are faſtened to one another remarkably firm. It has been a vulgar opinion alſo, that the bones are ſolid, and have no cavity, but this is alſo an error; the bones of the legs are indeed remarkably thick, but they have the natural cavity, and have marrow in it, as in other animals.

The tongue is very long and large, and is all the way covered with a kind of ſpiculæ; theſe are hollow at their baſe, ſharp at the ends, and all point backwards or toward the throat: the heart of many creatures of the fiercer kinds is ſmall, but in the lion it is remarkably large; the whole ſtructure of the creature is formed for ſtrength: the legs are vaſtly thick and ſtrong; the muſcles of the whole body vaſt and tough; the claws are of a ſurpriſing length and thickneſs, and, when they are not exerted for ſervice, are drawn back in a very ſurpriſing manner, ſo that they ſcarce appear: the eyes are large and fierce, and the teeth are very long and terrible: the fur

of

Manis



The Manis call'd the Scaly Lizard

Sylviæ



The long taild brown Ape with rounded Claws



The hairy Ear'd Ape



The long leged Ape with no Beard



The Cagui



The hairy headed Simia



The Bear



The Lion



The Tygar



The Lioness

B. Cole Sculp

of the whole body is of a tawny yellowiſh colour; it is not very long, except on the mane, where it is compoſed of hairs of a very different length, form, and ſtructure; the tail is long, thick, and floccoſe.

The lioneſs is, in all reſpects, like the lion, except in that ſhe has no mane; but this makes ſo great a difference in her appearance, that ſhe ſeems a creature of another genus.

The lion is a native of many parts of Aſia and Africa. It will live to a great age in Europe, and ſometimes breeds with us, but is no where wild in this part of the world. All the writers on quadrupeds deſcribe it under the name of Leo, and the female under that of Leæna.

Felis cauda elongata, maculis virgatis.
The Felis, with an elongated tail, and virgated ſpots.

The Tyger.

The tyger is a very large and terrible animal; it's fierceneſs is greater than that of the lion, nor does any living creature eſcape it's attacks. At it's full growth it is of the bigneſs of a ſmall heifer, and, though the body is leſs bulky, the legs are greatly thicker than in that animal: the head is large; the eyes are very large, and of a fierce and terrible aſpect; the mouth is very large, and the teeth enormouſly long: the neck is very thick, the ſhoulders large, and the legs of a monſtrous thickneſs; yet this is principally owing to the vaſtneſs of the bones, for they are covered with very little fleſh: the loins are weak, in proportion to the reſt of the body, and the hinder legs have leſs appearance of ſtrength than the fore-ones: the tail is thick and long, but is not floccoſe as the lion's.

The ground colour of the tyger is a pale tawny, with an admixture of brown, but is all over variegated with ſtreaks of black; theſe are long, and conſiderably broad, and go the croſs-way of the body.

The tyger is a native of Aſia, and alſo of many parts of America. The antients have ſpoke greatly of it's ſwiftneſs, but this is not to be underſtood of it's running, for in that it is inferior in ſpeed to moſt of the beaſts of prey, but of it's leaping. It ſeldom purſues any thing in a fair chace. It's cuſtom is to lie in wait, and it will throw itſelf forward out of theſe lurking-places with a ſurpriſing violence and rapidity; if it miſſes the prey in the leap, it very often does not turn againſt it, but walks away. All the writers on quadrupeds have deſcribed this under the name of Tigris.

Felis cauda elongata, maculis ſuperioribus orbiculatis, inferioribus virgatis.
The long-tailed Felis, with the upper ſpots round, and the lower virgated.

The Leopard.

This is a very beautiful animal, and, though leſs terrible in appearance than the lion or tyger, is not leſs fierce or voracious; it is conſiderably ſmaller than the tyger, and it's body is leſs bulky; but the limbs are ſurpriſingly ſtrong, and the creature is very active.

The head is large and fleſhy; the eyes are fierce and large; the mouth wide, and is furniſhed with a terrible apparatus of teeth: the neck is longer, and leſs thick than in the lion or tyger, and the body is alſo ſmaller, but there is an appearance of great ſtrength about the ſhoulders: the claws are of a terrible length, and are formed exactly as thoſe of the cat: the tail is long, thick, and variegated in the ſame manner as the body.

The ground colour of the animal is a deep fallow or tawny brown; the back and upper part of the ſides are variegated with round ſpots of a deep and gloſſy black; the lower

lower part of the ſides with ſtreaks of the ſame colour with thoſe ſpots, which are continued quite to the belly.

It is a very nimble as well as a very fierce animal, ſcarce any thing eſcapes it. All the writers on quadrupeds have named it, but there is ſome confuſion in the accounts of the earlier authors, and ſome of the later ones ſeem to have made two ſpecies of the male and female. They call the male *Pardus*, and the female *Panthera*. It is a native of Aſia and America.

Felis cauda elongata maculis ſuperioribus virgatis, inferioribus punctatis.
The Felis, with an elongated tail, with the upper ſpots virgated, the lower punctated.

The Cat-a-Mountain.

This is of the bigneſs of one of our maſtiffs, but not of thoſe of the very largeſt kind: the head is large; the eyes are prominent and very fierce; the ears ſhort and patulous, and the mouth large, and furniſhed with a terrible apparatus of teeth: the neck is ſhort and thick; the body is ſhort, rounded, and bulky: the legs are robuſt, and the claws very ſharp and very long.

The ground colour of the back and ſides is of a duſky brown; the belly and part of the legs, as alſo part of the face, is white: the variegations are black, and they run along the back and upper part of the ſides, in a longitudinal, not in a tranſverſe, direction: the lower part of the ſides, and the belly, inſtead of theſe ſtreaks, have only ſmall ſpots of black; the tail is long, and variegated.

This is a native of Aſia and Africa, and ſome parts alſo of America. Authors have deſcribed it under the name of Catus Pardus; and ſome have confounded it with the leopard.

Felis cauda elongata, auribus penicilli-formibus.
The long-tailed Felis, with pencilled ears.

This is a ſingular and a very beautiful animal; it is of the ſize of a large dog, but the limbs are much ſtronger, and more bulky: the head is large; the ears are very broad at their baſe, and very open, but they terminate in a point at the top, and are each ornamented there with a pencil of hairs of a moderate length, thick, firm, and coal black: the neck is ſhort and thick; the breaſt is broad; the body is corpulent and ſhort; the tail is long and variegated: the legs are robuſt, but not ſo remarkably thick as in ſome of the other beaſts of prey; the claws are very long, ſharp, and hooked.

The ground colour is a pale brown, with a mixture of tawny; the variegations are black: they are diſpoſed in irregular ſpots, large and oblong on the upper part of the animal, and ſmaller and rounded on the under.

This is a native of ſome parts of Europe, and has been, by ſome writers, confounded with the Cat-a-mountain; but the pencilled ears, in which it reſembles the lynx, ſufficiently diſtinguiſh it.

Felis cauda truncata, corpore rufeſcente maculato.
The truncated-tailed Felis, with the body brown and ſpotted with black.

The Lynx.

This is a large and robuſt animal, but it is leſs than the lion: the head is large, but not very long; the forehead is flat; the eyes are large and fierce; the ears are very large and open, but they terminate in a point at the top, and are there ornamented

ornamented with a pencil of fine black hairs: the mouth is furniſhed with very terrible teeth, and there are whiſkers about it, as alſo over the eyes: the neck is long, and moderately thick: the breaſt is large and broad; the body is moderately corpulent; the legs are very robuſt, and the claws terrible; the tail is ſhort and abrupt, but thick, and well covered with hair.

The fur upon the whole animal is very long and deep, but is not ſo thick as in many of the preceding ſpecies; it is of a very ſingular colour, a kind of a very pale reddiſh-brown: there is an admixture of white in it in ſome parts, and the whole body and legs are ſpotted with black: the ſpots are of an irregular figure, and ſtand at diſtances, and are not large.

This is a native of ſome parts of Europe; it is even found ſo far north as Denmark and Sweden, where it lives in the midſt of thick woods, and will climb trees with great facility. All the writers on quadrupeds have deſcribed it. They call it Lynx and Lupus Cervarius; we, the Ounce. It is a very fierce creature, and remarkable for the quickneſs of it's ſight.

Felis cauda truncata, corpore albo, maculato.
The ſhort-tailed, white Felis, with black ſpots.

The White Ounce.

This is of the bigneſs of our bull-dog, and is a very beautiful, but very fierce and miſchievous, animal: the head is large and ſhort; the forehead is depreſſed; the eyes are large and blue, and the noſtrils are wide; there are whiſkers about the mouth, and over the eyes, and the ears end in a pencil of long hairs of a grey colour: the breaſt is broad; the body ſhort and thick; the tail ſhort, thick, and truncated, and the legs ſtrong, but not ſo remarkably thick as in the other: the claws are very ſharp and robuſt.

The whole body is white, only that there are a few ſpots of black of an irregular figure ſcattered over it in different places; theſe are largeſt toward the back, and ſmall upon the legs: the tail is pretty equally variegated with black and white.

This is a native of many of the northern parts of Europe, but it is rarely ſeen; it lives in the midſt of the thickeſt foreſts, and climbs trees with great alacrity. The Swedes call it Callo.

Felis cauda elongata, auribus æqualibus.
The long-tailed Felis, with even ears.

The Cat.

This is the ſmalleſt animal of all this genus: the head is ſhort and rounded; the neck ſhort and thick; the body long and ſlender; the legs ſlender and ſhort; the tail very long, and well covered with hair. The natural colour is a brown tawny, variegated with very pale, and almoſt white, ſtreaks, diſpoſed croſs-wiſe, and running from the ridge of the back to the lower part of the ſides: the belly and the throat are white.

This is the natural colouring of the cat, as we have it wild in our woods. When it is kept in the houſe, the breed is ſo mixed with various-coloured males and females, that the diverſification is almoſt infinite. It is ſingular, that this ſpecies is ſmaller when kept in the houſe, than while wild. I have ſeen many of them in Rockingham foreſt, and other woods in Northamptonſhire, and elſewhere; they feed on rabbits, leverets, and the like, and do a vaſt deal of miſchief to the game. In France the cats are all of a bluiſh lead colour; in the North of Europe they are all white. All the writers on quadrupeds have deſcribed the ſpecies, under the name of Felis, Felis domeſtica, and Felis vulgaris.

MUSTELA.

THE upper foreteeth of the Muſtela are ſtraight, diſtinct, and acute: the foreteeth of the lower jaw are obtuſe and cluſtered; two of them ſtand inward: the feet are made for climbing.

Muſtela rufo-fuſca medio dorſo nigro.
The reddiſh-brown Muſtela, with the middle of the back black.

The Gulo.

This is of the ſize of our common cat, but the body, unleſs when diſtended with food, as is very frequently the caſe, is much ſlenderer, in proportion to it's length: the head is ſmall, and of a kind of oval figure, ſlender at the ſnout, and rounded on the crown; the eyes are prominent, though not very large; their iris is of a deep hazel; the ears are ſhort and patulous; the noſtrils are large, and the mouth is wide, and well furniſhed with teeth.

The neck is ſhort and thick; the ſhoulders are high; the breaſt narrow, and the back ſharp: the legs are ſhort, and not very robuſt, but the claws are extreamly ſharp: the whole body is of a duſky browniſh colour, with a tinge of ferrugineous red, only that the belly is pale and whitiſh, and the ridge of the back, on the contrary, is black.

It is a native of Germany, and many of the northern parts of Europe. It is very ſhy; it lives in woods, and takes it's poſt uſually on trees, from whence it precipitates itſelf down on any thing that is fit for it's prey. It is the moſt ravenous of all animals. It will feed on carcaſſes, though it's more uſual food is birds, and the ſmaller quadrupeds. We had one of them ſhewn among other wild beaſts, as a ſight in London, about four years ago. It would eat in ſuch a manner of any offal that was given it, as not to be able to ſtir for many hours, but would lie diſtended, panting, and, as it were, dying. All the authors who have written on quadrupeds have mentioned it. They call it Gulo, and the Glutton, and relate many odd and idle ſtories of the effects of it's voracious appetite.

Muſtela fulvo-nigricans gula pallida.
The blackiſh-brown Muſtela, with a pale throat.

The Martin.

This is equal to the common cat in length, but the body is much ſlenderer, and the legs are ſhorter: the head is ſmall, ſhort, and pointed at the ſnout: the eyes are long, and their iris is of a deep hazel; the ears are ſhort: the mouth is large, and is well furniſhed with teeth, and there are whiſkers about it as in the cat: the breaſt is narrow; the back is flatted, and ſomewhat broad; the legs are ſlender: the tail is equal to the whole body in length, and is very buſhy, or covered thick with long hair.

The whole body is covered with a deep and fine fur of a very dark brown, with an admixture of black, but very bright and gloſſy; the throat is whitiſh.

It is frequent with us about houſes, and is alſo abundant in the woods in many parts of Europe, where they diſtinguiſh two kinds, thoſe of the fir-woods, and thoſe of the beech-woods, under the names of Martes Abietum, and Martes Fagorum. Thoſe called the fir-wood kind are of a paler colour, with ſomewhat yellowiſh about them. It feeds on birds, and the ſmaller quadrupeds. All the authors who have written on beaſts have named it; they call it Martes and Troyna.

Muſtela flaveſcente-nigricans ore albo, collari flavo.
The yellowiſh-black Muſtela, with a white mouth, and a yellow collar.

The Pole-cat.

This is ſomewhat ſmaller than the Martin, and it's legs are ſhorter: the head is ſmall, oblong, pointed at the extremity, and rounded on the ſummit: the ears are ſhort, broad, patulous, and white at the edges; the eyes are moderately large, black, and piercing in their aſpect; the mouth is wide, and well furniſhed with teeth: the neck is ſhort and thick; the body is long and ſlender, and the legs are ſhort, and not very robuſt.

The head is of a dark brown, approaching to black, but with a tinge of orange colour in it: the mouth and the part about the noſtrils are white: the upper part of the neck is black, the under yellowiſh: the whole body is of a very deep colour, mixed of a kind of duſky yellow, and black: the back is darkeſt, and the belly paler than the ſides: the tail is long and black; the throat is alſo black, and the legs are black: the yellow mark on the under part of the neck begins a little beyond the angles of the mouth: the upper jaw is longer than the under.

This is frequent with us; it lives in warm hilly fields, under thick hedges, and in woods, and feeds on birds, and the ſmaller quadrupeds; but it chiefly is found in the neighbourhood of villages, or of farm-houſes, where it commits great ravages among the poultry. All the writers on quadrupeds have deſcribed it, and all under the ſame name Putorius. It has a moſt inſufferable ſcent, which is owing to a fœtid matter, formed in two glands, ſituated near the anus.

Muſtela caudæ apice atro.
The Muſtela, with the tip of the tail black.

The Weaſel.

This is a ſmaller animal than the pole-cat: the head is ſmall, of an ovated form, and ſharp at the ſnout; the ears are ſmall, ſhort, and patulous; the eyes are of a fierce aſpect, moderately large and prominent: the noſtrils are large, and the mouth is well furniſhed with teeth: the upper jaw is longer than the under, and the anterior part of the head, in ſome degree, reſembles that of a dog: the mouth and about the noſtrils and eyes are ornamented with long and thick whiſkers; the ears are covered with a ſhort, but very denſe, fur, and have a ſingular kind of a duplicature at their baſe; the inner aperture of the ear, which is remarkably large, in proportion to the outer, is full of a kind of fleſhy protuberances or granulations of a reddiſh colour.

The neck is ſhort and ſlender; the body is about eight inches long, and ſlender; the tail is little more than a third of the length of the body: the legs are very ſhort and ſlender, and the feet have each five toes, armed with little but very ſharp claws.

The whole body is covered with a fine and tolerably long fur: the back is of a dark colour, with ſome tinge of a ferrugineous or reddiſh-brown; the ſides have more of the red, and the belly is white; the whiteneſs begins at the chin, and is continued over the whole under part of the creature: the legs are darker than the ſides.

This is frequent in all parts of Europe. We have it in woods, and under warm hedges, and it is often found about the farmer's barns and out-houſes, where it does great damage among the poultry. All the writers on animals have deſcribed it. They all call it by the ſame name Muſtela; we, the Weaſel, the Foumart, or the Fitchet.

Muſtela albido-flaveſcens capite depreſſo.
The yellowiſh-white Muſtela, with a flatted head. **The Ferret.**

This is of the middle ſize, between the pole-cat and weaſel; it is, indeed, but little inferior to the former in length, though leſs corpulent: the head is ſmall and depreſſed, the ſnout ſharp; the eyes look very fierce and red; the ears are ſhort, patulous, and erect; they are conſiderably wide, eſpecially toward the baſe: the mouth is large, and the teeth very ſharp.

The neck is ſhort and ſlender; the body is long and thin: the legs are ſhort, and are each divided at the foot into five toes, and there armed with very ſharp and moderately long claws: the whole animal is of a yellowiſh-white colour, but the under part is darker than the upper, which is againſt the uſual courſe in theſe animals.

It is kept very frequent with us, but is a native of Africa. Our people uſe it in taking of rabbits; they plant nets at the mouths of the burrows, and turn in the ferret, which forces the creature out of it's retreat, and it is taken. Before they do this, they are obliged to ſew up the mouth of the ferret, otherwiſe it would deſtroy the victim, and mangle it.

Muſtela nivea auribus anguſtis, caudæ apice nigro.
The white Muſtela, with narrow ears, and the tip of the tail black. **The Ermin.**

This is an extreamly beautiful creature; the bigneſs is that of the common weaſel, and there have been thoſe who have ſuppoſed it the ſame ſpecies, only differing in colour, but they cannot have ſeen perfect ſpecimens of the animal.

The head is very ſmall, depreſſed, broad at the crown, and ſharp at the ſnout: the anterior part, in a great degree, reſembles that of the head of a greyhound: the ears are ſhort, erect, and narrow; the eyes are ſmall, but ſomewhat prominent; the mouth is large, and the teeth ſmall but ſharp: the neck is ſhort, and ſomewhat thick; the body is about eight inches in length, but it is very ſlender: the legs are ſhort, and the feet are each divided into five ſlender and weak toes, which are armed with ſharp white claws.

The whole body of the animal is white, the pureſt and brighteſt colour that can be expreſſed by that word: the tip of the tail is of a deep black; about the eyes it is of a duſky colour between grey and yellow, and there is a ſpot of the ſame colour in the middle of the head, another between the ſhoulders, and, finally, a third juſt above the inſertion of the tail.

This is a native of the northern parts of Europe; it lives in places remote from towns or houſes, and feeds on moles and mice, and other ſmall animals. The fur is extreamly valued. All the writers on beaſts have deſcribed it. Ray calls it Muſtela candida ſive Animal Ermineum; and moſt of the others Ermineus, or Animal Ermineum.

Muſtela fulva auribus cineraſcentibus.
The brown Muſtela, with grey ears. **The Sable.**

This is very like the common weaſel in form, but it is equal to the pole-cat in ſize: the head is ſmall, and of an ovated form, depreſſed on the forehead, and ſharp at the ſnout: the upper jaw is longer than the under; the eyes are large, prominent, and dark; the ears are ſhort, broad, erect, and patulous; the mouth is wide, and the teeth are ſharp: the neck is very ſhort, and tolerably thick; the body is long and ſlender: the tail is moderately long, and is well covered with hair, and the legs are very

very ſhort and ſlender: the feet have each five toes, and thoſe are armed with very ſharp, though not with very ſtrong, claws: the whole creature has greatly the appearance of our weaſel or pole-cat, but it walks lower or nearer to the ground; though this is rather owing to the manner of it's uſing it's legs, than to their being in reality ſhorter than in thoſe ſpecies.

The fur of this creature is very thick and deep, and is remarkably fine and gloſſy: the colour is a deep, but a very beautiful, brown; there are long hairs, in manner of whiſkers, about the mouth and noſtrils, as alſo over the eyes: the noſe and the eare are grey, and the throat is of a yet paler grey or whitiſh; the reſt is all of the ſame elegant brown.

It is a native of many of the northern parts of Europe, and it's fur is valued at a very high rate. We have a way of dying and preparing fox-ſkins, ſo that they, in ſome degree, imitate it; but, when ſeen with the true ſable, the counterfeit makes but a very paltry appearance. All the writers on animals have deſcribed the creature. Ray and others call it Muſtela Zibellina.

Muſtela cauda annulis nigris albidiſque cincta.
The Muſtela, with the tail annulated with white and black.

The Genet.

This is a very beautiful little animal, but it differs conſiderably in form from thoſe which have been hitherto deſcribed; they are all ſlender-bodied and low, their legs being very ſhort; this is more corpulent, and the legs are longer; it has much the appearance of a young fox: the head is large, oblong, broad, and depreſſed at the crown, and pointed at the noſe; the ears are ſhort, broad, and erect; the eyes are large, and they ſtand prominent: the noſtrils are wide, and the mouth is large, and very well furniſhed with teeth: the neck is ſhort and thick; the body is long, and tolerably large; the tail is long and very beautiful, and the legs are proportioned more like that of the cat, than the ſhort ones of the ſable or weaſel.

The head is of a duſky tawny, with an admixture of black, but there is alſo ſome appearance of grey about the noſe and ears; and all about the mouth, and over the eyes, there are black and thick whiſkers: the back is of a very deep tawny, approaching to black; the ſides are of a paler tawny, or yellowiſh colour, and are variegated with large ſpots of black, diſpoſed in a very regular and beautiful manner: the legs are nearly black, and the tail is beautifully variegated with the ſame deep tawny, approaching to black, and with white or regular annular ſpots.

It is a native of many parts of the Eaſt; it lives in woods, and eſpecially where there are ſprings. It feeds on birds, and the ſmaller quadrupeds. It is eaſily tamed, and becomes familiar with mankind, and in the Turkiſh dominions is kept in the houſes to deſtroy vermin, as cats are with us. All the writers of beaſts have deſcribed it; they call it Genetta.

Muſtela griſeo et albido variegata.
The grey and white variegated Muſtela.

The tabbied Mungo.

This is an extreamly beautiful animal, it is the largeſt of all the Muſtelæ; the ſize is that of our largeſt wild cat, but the body is leſs corpulent, and the tail is vaſtly longer, and more beautiful; it is the lighteſt of all creatures, in proportion to it's apparent ſize: the head is ſmall, oblong, depreſſed at the crown, and narrow and ſharp at the ſnout: the eyes are prominent; the ears are covered with a fine down; the mouth is large, and well furniſhed with teeth: the neck is ſlender, and moderately long: the body is tolerably large and long, the legs are ſlender, and the tail is of a very great length, and covered with ſuch a long fur, that it appears very thick; it is, indeed, always naturally in that ſtate, in which the tail of the common cat appears, when that creature is provoked: the feet are each terminated by five toes, and theſe are armed with long, ſharp, hooked claws, of a deep colour.

The whole body is variegated with a pale grey and whitiſh colour, diſpoſed in tranſverſe ſtreaks, in the manner of the variegations of our tabby cats, and reaching from the ridge of the back to the lower part of the ſides; the throat and belly are whitiſh.

This is a native of many parts of the Eaſt, where it lives wild in the woods, and is frequently alſo kept tame in houſes, for the deſtroying of vermin. It is the moſt inoffenſive creature imaginable, and ſo indefatigable in ſearch of mice, and other reptiles, that it is impoſſible to open a box or a drawer almoſt in any part of the houſe, but the creature is in it on the inſtant. We have it brought over to Europe, and it lives very comfortably with us. I remember one at the late Duke of Richmond's, which uſed to run tame about the houſe, and afforded great diverſion, in it's eſcapes from an Italian greyhound, that was eternally purſuing it. It is the nimbleſt, in it's motions, of all creatures, and the diſtance to which it will throw itſelf at one leap is ſurpriſing; it is ſo extreamly light, and ſo deeply covered with fur, that it ſeems to float upon the air, when the motion is once given, and to be carried, without any new impulſe, to a ſurpriſing diſtance. Ray and ſome others have deſcribed it; they call it Viverra Indica quæ Mungo Luſitanis, Mungathia Ceylanenſibus; we call it the Mungo or Mungoſe.

Muſtela ferruginea cruribus longioribus.
The ferrugineous Muſtela, with longer legs.

The brown Mungo.

This is ſmaller than the preceding ſpecies, but is otherwiſe like it in all but colour: the head is large and oval; the forehead ſomewhat depreſſed; the noſe ſharp, and the upper jaw ſomewhat, though not much, longer than the under: the eyes are large and prominent: the ears are ſhort, erect, and patulous; there are whiſkers about the mouth, and over the eyes, and the teeth are not large, but very ſharp.

The neck is ſhort and thick; the body is compreſſed; the legs are moderately long and ſlender, and the tail is very long, and covered with a deep fur; the claws are ſharp, but not ſtrong: the head is of a pale ferrugineous colour, very bright and gloſſy, and there is alſo ſome greyneſs about the eyes, and at the mouth the whiſkers are black: the back is of a very deep ferrugineous brown, on the very ridge it almoſt approaches to black; the ſides are paler, and the throat and belly are yet paler than either: the legs are dark, and the tail is irregularly, but ſomewhat in the annulated manner, variegated with a very deep brown, and a paler or yellowiſh ferrugineous.

This is a native both of the Eaſt and Weſt Indies, and is kept in the houſes there, as we do cats to deſtroy vermin. We have it ſometimes brought alive to England, and it will live very comfortably with us. Authors have called it Mungo and Mungathia fuſca. It is not ſo handſome as the former.

LUTRA.

THE fore-teeth in the upper jaw in the Lutra are ſtraight, diſtinct, and acute; thoſe of the under jaw are obtuſe, and ſtand in a cluſtered manner with two inward: the ears are ſituated lower than the eyes, and the feet are palmated and formed for ſwimming.

Lutra digitis omnibus æqualibus.
The Lutra, with all the toes of equal length.

The Otter.

This is a large and a fierce animal; it's length, including the tail, is more than three feet; the body is long and bulky, but the legs are ſhort, ſo that it walks very low: the head is ſhort and thick; the forehead depreſſed; the noſe thick and rounded; the mouth is large; the noſtrils are ſmall, and there are on each ſide, between the noſtrils and mouth, a number of whiſkers: the eyes are large, and of a fierce aſpect; the ears are ſhort and round, and they are ſituated very odly; they do not ſtand on the top

top of the forehead as in moſt other animals; but at the very hinder part of the head, juſt at the neck, and much lower than the eyes, as well as a great way behind them.

The neck is very thick, and not very ſhort: the body is rounded, and very fleſhy; the tail is extreamly thick and long, and is all the way covered with a thick fur: the legs are ſhort, but very robuſt; the feet are broad, and they are webbed; the toes are each armed with a ſharp claw.

The whole body is covered with a fine and tolerably deep fur, but leſs deep as well as leſs gloſſy than that of the beaver, which animal it in general greatly reſembles: the back is of a deep cheſnut brown, but with ſome faint admixture of grey in it: the throat, the breaſt, and the belly are paler, or have more of the grey; the legs are of a very dark cheſnut, and ſo is the tail, and both are covered with a much ſhorter fur than that of the body.

This is very frequent in moſt parts of Europe: it frequents waters, and feeds on fiſh; it will keep under water a great while, and move under it with a ſurpriſing ſwiftneſs. We have it in too great abundance in the fens in Lincolnſhire, where it deſtroys the pike in great quantities, and will ſeize on the largeſt. In the river Nen, near Peterborough, at about half a mile above the town, there is a part where the water is very clear and deep; I have ſeen them there, as I have been fiſhing from a boat, paſſing with an amazing rapidity, at twenty feet under the ſurface. All the writers on quadrupeds have deſcribed it; they call it Lutra.

Lutra pollice digitis breviore.
The Lutra, with the inner toe ſhorter than the other.

The Braſilian Otter.

This is a large and a very beautiful animal; it's length, including the tail, is near four feet: the head is large, thick, rounded at the crown, but ſomewhat ſharp at the ſnout: the eyes are large and black; the ears are very broad and open; they ſtand extreamly backward, almoſt at the neck, and on the ſides, not on the top of the head, but are but little more than on a level with the angles of the mouth in height: the noſtrils are large, and there are long whiſkers about the mouth: the teeth are ſharp, and the opening of the mouth is wide and terrible.

The body is very corpulent; the back broad, and the belly rounded and ſwelling: the legs are robuſt, but ſhort: the toes are long, except the inner one, which anſwers to the thumb on the human hand, and is very ſhort and inconſiderable: the others are connected by a membrane, in the manner of thoſe of the water fowls: the tail is very long, and very thick, and is carried in a ſtraight direction.

The whole body is covered with a deep fur, very gloſſy and ſoft to the touch, and of a fine and elegant black colour: the legs are of a leſs deep black than the body, and the head is of a tawny brown, but the moſt ſingular variegation is a ſpot of yellow on the throat.

This is a native both of the Eaſt Indies, and of South America. Marcgrave and Piſo have deſcribed it, and we have of late had ſkins of it from the Eaſt. The Braſilians call it Iiga, a name deviſed in imitation of a yelping noiſe it makes, which is not unlike that of a puppy; they alſo call it Carigueibien.

C A N I S.

THE fore-teeth in the upper jaw of the Canis are acute, and there are four intermediate ones of a trilobated figure: the canine teeth of the upper jaw are remote from the fore-ones: the top of the cranium is carinated. Though all dogs, however various in name and figure, are truly but of one ſpecies, this genus comprehends ſo many other animals agreeing with them in character, that it is extenſive.

Canis

Canis cauda recurva.
The Canis, with the tail bent upwards.

The Dog.

The dog, in it's wild ſtate, is of a middle proportion, between the maſtiff and greyhound: the head is long, and the noſe obtuſe; the neck is long and fleſhy, and the body is moderately large; the legs are long, and the tail is very long, and naturally turns up: the colour is tawny, and the fur about as long as that on the maſtiff-kind with us; it has a ſtrong and quick ſmell, and follows beaſts of a ſmaller ſize than itſelf, as well by the noſe, as by ſight.

The dog, in this ſtate, is a native of many parts of the Eaſt, and lives comfortably in the woods. It does not attack a man, if it meets him, but neither has it any thing of that kindneſs and familiarity which we find in it, unleſs bred with us. Many animals may be made as tame as the dog, by the ſame kind of treatment. I have known it tried on the otter with perfect ſucceſs.

Authors have mentioned this ſpecies by the ſimple name of Canis, giving a variety of others to the ſeveral varieties which we have produced, and are continually producing by mixed breeds. The maſtiff, the wolf-dog, the greyhound, the hound and it's ſubdiviſions, the ſpaniel, the water-ſpaniel, the bull-dog, the lap-dog, and the reſt, are only varieties of this original ſpecies. To thoſe who would ſuppoſe them diſtinct, their forms, manners, and other particularities would render them ſubjects for a volume.

Canis cauda incurva.
The Canis, with the tail bending inward.

The Wolf.

As ſome have been for making the lap-dog, the greyhound, and the reſt diſtinct ſpecies, others have erred in the contrary extream, and have been for confounding the wolf and the dog as of the ſame, though in reality they are perfectly different. The wolf is a very large and a very fierce animal; it is equal to the biggeſt maſtiff in ſize, and has much of the general appearance of that creature: the head is large and fleſhy; the eyes have a very bold and fierce aſpect; they are large and prominent, and their iris is hazel: the ears are ſhort, patulous, and erect; the teeth are very large, and the creature has a way of ſhewing them in a frightful manner by grinning: the neck is robuſt and thick; the antients ſuppoſed the creature could not move it, but this is an error; the wolf turns it about more readily than any of the dog-kind, and, though very ſtrong, it is not at all rigid: the body is large, and the back broad, unleſs when the creature is ſtarved: the legs are moderately long and very robuſt, and the tail is long and buſhy, like that of the fox, and naturally turns inward.

The natural colour of the wolf is black, but there are ſome tawny, and in many places they are, in winter, perfectly white as ſnow: the voice of this creature is very like the howling of the dog, but it does not bark in the manner of that animal.

It is a native of almoſt all parts of Europe, and is very miſchievous wherever it comes. Cattle are a continual ſacrifice to it; and in hard winters, when the woods afford no food, they will come down in troops, and attack houſes and villages, deſtroying every thing they can get at. All the writers on quadrupeds have deſcribed it, and all the under the ſame name Lupus.

Canis roſtro anguſtiore.
The Canis, with a ſlender ſnout.

The Jackall.

This is a very beautiful creature, and ſo greatly approaches to the dog-kind, that it would be very natural for a perſon at firſt ſight to miſtake it for ſome mungrel breed of that animal; it is of the ſize of a ſmall hound: the head is long and narrow, eſpecially

pecially toward the noſe; the ears are ſhort and erect; the eyes are large, and of a remarkably briſk and piercing aſpect: the mouth is wide, and is very well furniſhed with teeth: the neck is ſhort and thick; the body is large; the legs are about in the ſame proportion, as to length and thickneſs, as in the hound: the tail is large, and covered with a deep fur.

The colour of the whole body is that ſort of tan or liver colour, which we ſee in ſpots on ſome of the hounds, and ſpaniels, only that it is brighter, and has more of the yellow in it: the legs are darker than the body, and there is ſomething dark alſo about the face.

This ſpecies is a native of the Eaſt in vaſt abundance: they hunt, and that in natural packs, it being frequent to hear the notes of more than two hundred of them together; in theſe companies they will ſeize upon animals, which they would never dare to attack alone, but there is often bloody fighting about the diviſion of the ſpoil. It is not impoſſible but lions, and other larger beaſts of prey, may be alarmed by the cries of theſe little creatures in their chace, and may fall in and rob them of their prey, but the general opinion of their attendance on the lion is fabulous. All the writers on quadrupeds have mentioned the Jackall; they call it Lupus aureus.

Canis pilis cervicis erectis longioribus.
The Canis, with the hairs of the neck long and erect.

The Hyæna.

This is a very ſingular and a very ugly animal; it is of the bigneſs of a bull-dog: the head is large and ſhort; the noſe is obtuſe; the mouth is wide, and furniſhed with a terrible armature of teeth; the eyes are large, black, and of a very fierce aſpect; the ears are ſhort, broad, and erect: the neck is very thick, and is covered with a kind of briſtles inſtead of hairs, which naturally ſtand erect, and give a very formidable appearance to the creature: the body is bulky and rounded; the ſhape of it is not unlike that of a pig: the legs are moderately long, and very robuſt; the general colour is a very duſky olive, approaching to black: the legs are darker, and the face paler than the reſt.

It is a native of many parts of the Eaſt, and is an extreamly fierce and voracious animal. It is not very ſwift of foot, but it is continually lying in wait for other creatures, and ſcarce any thing that comes in it's way eſcapes it. It's voice is ſhrill, and has a mournful ſound. Some have placed this creature among the monkies, others have made it of the badger-kind; and it is probable that the ſtories of the Man-tyger and Lamia have been founded on the miſrepreſentations which authors have given of this animal.

Canis cauda recta extremitate alba.
The Canis, with the tail ſtraight and white at the tip.

The Fox.

The fox much reſembles the dog in form, and is of the ſize of a common ſpaniel: the head is large, oblong, and, though conſiderably broad at the crown, is very narrow at the noſe: the eyes are large and prominent; the ears moderately large and erect; the mouth is wide, and well furniſhed with teeth: the neck is ſhort and robuſt; the body is large, and the legs are very ſtrong, though not remarkably thick; the tail is long and buſhy. The colour of the fox with us is a reddiſh-tawny, but in ſome parts of Germany it is naturally black, in others grey, or of a dark and gloſſy brown, and there are ſome places where it is white, either during the winter, or the whole year.

It is a native of moſt parts of Europe, and is a very miſchievous creature about farm-houſes, deſtroying poultry and other things in a moſt rapacious manner. All the authors who have written on quadrupeds have deſcribed it; they have called it Vulpes.

Canis cauda recta extremitate nigra.
The Canis, with a ſtraight tail black at the tip. **The larger Fox.**

This is ſomewhat larger than the common fox, and every way more robuſt, in proportion: the head is large, and leſs attenuated at the ſnout than in the common fox; the noſe is obtuſe; the noſtrils are large; the eyes are large, black, and prominent; the ears are erect and patulous; the mouth is wide, and well furniſhed with teeth; the neck is thick and ſhort, the body is alſo ſhort; the legs are very thick, and the tail is long, ſtraight, buſhy, and it's tip black: the colour of the whole animal is a deep brown, ſomewhat like that of the ſable, and the fur is very deep and gloſſy. We have the ſkins ſometimes impoſed on us, when cut up and wrought, for true ſable; and indeed they come nearer it than thoſe of any other animal.

It is a native of Tartary; few authors have been acquainted with it.

Canis cauda recta unicolore.
The Canis, with a ſtraight tail all of one colour. **The Sibertan Fox.**

This is of the ſize of the common fox: the head is larger, and is not ſo much attenuated at the ſnout; the noſtrils are large; the mouth is wide; the ears are ſhort, erect, and patulous: the eyes are ſmall, but they are prominent and black; the neck is ſhort and robuſt; the legs are ſhorter and thicker than in the common fox, and the tail is longer, and more buſhy, and is neither black nor white at the extremity, but of the ſame colour with the reſt of it, which is the ſame with that of the body, and is a pale brown, with a tinge of grey.

This is a native of Siberia, and is frequent in the woods, and about villages, preying on poultry, and weak animals of every kind, as the common kind with us. Few authors have ſeen it.

P H O C A.

THE fore-teeth in the upper jaw of the Phoca are ſix; thoſe in the under jaw are only four: the feet have each five toes, and are palmated and made for ſwimming: there are no ears.

Phoca dentibus caninis tectis.
The Phoca, with the canine teeth covered. **The Sea-calf.**

This is a very ſingular and extraordinary animal; it ſeems, indeed, in ſome degree, to connect the quadruped and the fiſh-kind. It grows to five feet, or more, in length, and will become very corpulent, but thoſe which are uſually caught are ſmaller: the head is very large, and irregularly ſhaped; it is oblong, depreſſed on the crown, and ſomewhat flatted at the ſides, and has a kind of protuberance on the under part, ſo that in the whole it appears very ſingular: the eyes are large, and are not prominent, but ſunk in the ſubſtance of the head, as it were; the ears are only two ſmall apertures; in this it is extreamly ſingular, being the only creature among the viviparous quadrupeds, that has no external ear: the ſnout is obtuſe; the noſtrils are ſmall; the mouth is wide, and over it there are placed a number of whiſkers: the neck is very ſhort and thick; the body is long, and very large: the back flatted and depreſſed; the belly round and prominent: the fore-legs are rounded, and very ſhort; they are indeed buried under the ſkin of the body, almoſt to the feet: the hinder legs are broad, flat, and joined together, ſo as to reſemble the tail of a fiſh; between theſe there is a very ſhort tail: all the feet are webbed, or have the toes, which are five on each, connected by a membrane: from this ſtructure of the feet the creature muſt be very ill qualified for walking: the hairs or briſtles which compoſe the whiſkers are of an odd figure, ſquare and compreſſed; there are none of them over the eyes, but only about the mouth.

The

The whole body is covered with a ſhort fur, of a mixed greyiſh and yellowiſh colour: it is often ſpotted with a darker colour toward the back, and is always paler on the breaſt and belly than elſewhere: the tongue is large, like that of a calf, but it is bifid, or divided into two parts at the end: the creature is contrived for living a great part of it's time under water, and the foramen ovale of the heart is to this purpoſe continued open in it, as it is in fœtus's, which are to live without the aſſiſtance of breathing.

It is very frequent about the ſea-coaſts of many parts of Europe. We have it in Cornwal, and ſome other places; they come out of the ſea to ſleep, and the people take this occaſion of attacking them. They will throw ſtones from about them, by the aſſiſtance of their hinder legs, to a great diſtance, and with a dangerous violence. All the writers on quadrupeds have deſcribed this ſpecies; they call it Phoca and Vitulus marinus; we, the Sea-calf.

Phoca dentibus caninis exertis.
The Phoca, with the canine teeth exerted.

The Walrus.

This is a much more ſingular and extraordinary creature than the former, and is much larger; it grows to the ſize of the largeſt ox: the head is very large, and is thick, ſhort, and of an almoſt rounded figure: the eyes are very large and prominent; there are no ears, but only an aperture on each ſide of the head, of an oblong form, and not very large: the noſe is obtuſe; the noſtrils are large, and the creature contracts and dilates them at pleaſure: the mouth is very large, and the upper part of it is furniſhed with ſome very large, thick, and cartilaginous whiſkers: the tongue is ſhort; the canine teeth of the upper jaw are of an enormous length and ſize, and they hang downwards and forwards toward the breaſt; the creature uſes theſe ſtrange weapons to climb upon the ice, and to hang itſelf to the rocks, in it's getting on ſhore to ſleep.

The neck is ſhort and robuſt; the body is corpulent to a great degree: the fore-legs are buried a great way under the ſkin of the body; the hinder legs are connected together, and they form a kind of tail, like that of a fiſh; there is no tail.

The ſkin is thick and firm, and is covered with ſhort, and not very thick-ſet, hairs; they are of a grey colour, and tolerably firm.

This ſtrange animal is a native of the Northern Seas; it is frequent about Greenland, and in other places where there are whale-fiſheries, and ſometimes comes into warmer climates. Moſt of the writers on animals have deſcribed it. They call it the Roſmarus, the Wallroſs or Walrus, and the Morſe; ſome, but very improperly, the Sea-horſe. We uſe the teeth in the manner of ivory.

M E L E S.

THE fore-teeth of the Meles are all obtuſe, and thoſe of the upper jaw are ſtriated. There is alſo, in this genus, always a bag of ſecreted matter, ſituated near the anus.

Meles unguibus anticis longiſſimis.
The Meles, with the anterior claws very long.

The Badger.

This is a very ſingular animal, and is not without it's beauty; it is of the ſize of a ſmall dog: the body is thick and ſhort; the neck is extreamly ſhort: the fur, with which it is covered, is compoſed of hairs ſo rigid and thick, that they have the appearance of hogs briſtles: thoſe on the back, which are the largeſt and faireſt, are yellow toward their baſe, of a blackiſh-brown in the middle, and of a deeper or ſtronger yellow at the tips, ſo that the colour of the creature is an odd mixture of deep brown

brown and pale yellow, which together form a kind of grey: the animal has thence obtained one of it's Engliſh names, the people of many places with us calling it the grey: the ſides and belly are in ſome ſolely of a yellowiſh colour, but in others the whole under part of the body is black; this has a very ſingular appearance, as in all other creatures almoſt the belly is paler than the back: the throat is always black, as are alſo the ſhoulders, and all the legs, as well the hinder as the fore-ones: the head is long, and there runs all the way down it, from the crown to the extremity of the ſnout, a broad line of white, equal to two fingers in breadth; and below this there runs on each ſide a broad line of black, which is continued beyond the region of the eyes, almoſt to the neck; and below this, on each ſide, the fur is again whitiſh. This gives a great variation of colouring to the head, and it appears very beautiful.

The tail is thick and ſhort, and is covered with ſhort and rigid black hairs: the ears are ſhort and round, but have ſomething of the appearance of thoſe of a rat: the eyes are ſmall; the ſnout is formed very much like that of a dog: the legs are ſhort and robuſt, and the toes of the fore-feet are armed with extreamly ſharp and long claws: the general figure of the head reſembles that of the fox; it is broad acroſs the top, and thence becomes narrow all the way to the noſe, ſo that it is of a kind of conic figure: the cheeks are tumid.

Juſt under the tail, above the orifice of the excrements, there is an aperture which diſcharges itſelf into a ſmall bag, the contents of which are thick, white, and ſoft, and in ſome degree reſemble the brains of a calf, when boiled. This ſubſtance has no particular ſmell; but, beſide this, there is a very fœtid matter, ſecreted by two glands, ſituated near the anus, and having no communication with the bladder.

This creature is a native of moſt parts of Europe; we have it in England, but it is not common: with us it makes itſelf holes in the earth, as the rabbit does. It's food is inſects, and the ſmaller animals, but it will ſometimes prey on larger. The ſtrength of the muſcles about the mouth, to which the ſwelling out of the cheeks is owing, gives it a power of biting in a violent manner. All the writers on theſe ſubjects have deſcribed it. Geſner and many others call it Meles; Jonſton and Aldrovand, and after them alſo many others, Taxus; Charleton, Taxus ſive Daxus. We call it the Badger, the Pate, and the Grey.

Meles cinerea unguibus uniformibus.
The grey Meles, with uniform claws.

The Civet-Cat.

It was long before the form of the creature, to which we owe the civet, was known, and long after this, before it could be determined to what genus of quadrupeds it belonged; it was firſt ſuppoſed of the cat, and afterwards of the dog kind, but it is truly one of the badger ſpecies.

It is a large and fierce animal; it's ſize is that of the common badger, but it's body is not ſo bulky: the head is large, oblong, and conſiderably thick all the way, not conic, as in the fox: the forehead is depreſſed; the whole ſnout is rounded and thick; the noſe turns up a little, and the noſtrils are moderately large: the mouth is wide, and is furniſhed in a very formidable manner with teeth, and there are a few rigid, but not very long, whiſkers placed about it: the eyes are ſmall, and they do not ſtand very prominent; the ears are large, obtuſe, erect, and patulous.

The neck is ſhort, rigid, and thick; the body is long, and conſiderably thick; the tail is long, and reſembles that of the common cat: it is covered with long hair, and there runs a ridge of the ſame hair alſo along the top of the back.

The whole animal is of a light ſilvery colour, variegated in a beautiful manner, with large ſpots of black: the legs are moderately long and robuſt, and they are almoſt entirely black: the feet are armed with claws very long and ſharp, and equally ſo throughout, not longer on the anterior, than on the hinder, pair, as in the badger.

Under

Under the tail is ſituated the bag, in which is contained the perfume, which we call civet. It's ſituation is exactly the ſame with that of the bag, which contains the white ſebaceous matter in the badger.

It is ſingular that the throat, and part of the under ſurface of the common badger, is black; the whole under ſurface of the civet animal, the throat, breaſt, and belly are all black, and this is contradictory to the cuſtom of nature, in the generality of animals, which are darker-coloured on the back, and paler on the belly, that has a ſtrange appearance; in this, however, as well as in particulars which are more eſſential, the badger and this creature agree in a ſurpriſing manner.

The civet animal is a native of South America, and of ſome other of the warmer quarters of the world; it will live with us, and even produce the perfume, but in ſmall quantities, and of an inferior ſcent to that which is obtained in warmer countries. All the late writers on beaſts have mentioned this. They call it Felis Zibethicus, and Animal Zibethicum.

Meles unguibus uniformibus leucophæa.
The bluiſh Meles, with uniform claws.

The Ichneumon.

This is alſo an animal, which, though long known by name, has been put among very wrong genera by authors; it has been generally ranged among the mus-kind, and called a rat; but it is truly of the badger genus, and indeed extreamly reſembles the common badger in almoſt every particular. It is of the bigneſs of a large cat: the head is long, and the noſe tolerably ſharp; the eyes are large, but not prominent; the ears are ſhort, erect, and patulous; the noſtrils are large, and the mouth is wide, very well furniſhed with teeth, and ornamented with whiſkers; the tongue is broad, and rounded at the end: the body is long and thick; the tail is long and thick, and is well covered with hair; the legs are robuſt, but they are not very long; the toes are armed with ſharp claws: the head is of a dark colour, approaching to black, eſpecially about the noſe; the whole body, beſide, is of a grey colour, like that of our common badger, and has, in the ſame manner, a tinge of yellowiſh in it, but there is more of the black among the darker ſhade; ſo that it has a bluiſh tinge with the reſt, which is not in our badger: the under part of the body is darker than the back or ſides, and the legs alſo are dark or blackiſh.

This is a native of Egypt, and ſome other places; it feeds on ſmaller animals, and does not ſpare ſerpents, which are very numerous in that part of the world, and which it deſtroys in great quantities. The people at Alexandria bring the young to market for ſale; thoſe who buy them breed them up tame in their houſes, as we do cats, for the deſtruction of vermin. It is an extreamly nimble and bold animal; it will ſtand a battle with the largeſt dog, and will ſtrangle any creature in a few minutes, if it can get hold of it's throat, which is what it always attempts. It will ſtand upon the hinder legs to look about for prey, and, when it has diſcovered any creature that is proper for it's purpoſes, it creeps very ſlowly on the ground till within a due diſtance, and then throws itſelf on the unexpecting animal with a ſurpriſing violence and rapidity.

Moſt of the authors who have written on animals have named it; they call it Mus Ichneumon, Ichneumon, and Mus Pharaonis.

ERINACEUS.

THE lateral fore-teeth of the Erinaceus are ſhorter than the others: the noſtrils are criſtated, and the body, inſtead of hairs, is cloathed, in the manner of that of the porcupine, with ſpines.

Erinaceus auriculatus.
The Erinaceus, with larger ears.

The Hedge-hog.

There have not been wanting authors, who have aſſerted, that the porcupine and our common hedge-hog were the ſame animal, differing only in ſize; on the contrary, they are creatures not only of a different genus, but even of diſtinct claſſes, nor is there indeed any thing in which they agree but the covering of their bodies with this kind of armature, inſtead of hair. The hedge-hog is a little animal, conſiderably thick, in proportion to it's length, and, when it draws itſelf together at the approach of danger, appears of a kind of an oval figure.

The length of the creature is about ſeven inches, and it is conſiderably broad and thick, in proportion: the head is ſmall and oblong; it is broad toward the upper part, and grows ſmaller to the noſe: the mouth is formed very much like that of the badger, or in general like the dog-kind: the eyes are ſmall, they are black and protuberant; the ears are ſhort and broad, and very much reſemble thoſe of the common rat: the neck is ſhort; the back is broad and prominent: the legs are ſhort and robuſt: the feet are formed like thoſe of a dog; there are five toes on each, and the inner one is ſhorter than the others, in manner of a thumb.

The whole neck, back, ſhoulders, and upper part of the head are covered with ſtrong and ſharp ſpines: the throat, breaſt, and belly, as alſo the legs, are covered with a harſh and ſhort fur, of a whitiſh colour.

This is frequent with us, and in almoſt all other parts of Europe. It lives under hedges, and in dry woods. All the writers on quadrupeds have deſcribed it. They call it Echinus terreſtris, Erinaceus, and Erinaceus vulgaris.

Erinaceus ſubauriculatus.
The Erinaceus, with very ſmall ears.

The White Hedge-hog.

This is larger than the common hedge-hog, but very like it in form: the head is ſmall, and of an oblong figure, broad and depreſſed on the crown, and gradually ſmaller to the noſe, where, though ſmall, it is ſtill obtuſe: the noſtrils are large; the mouth is not very wide, but it is well furniſhed with teeth; the eyes are ſmall, bright, black, and prominent: the ears are very low and inconſiderable; they ſcarce indeed deſerve the name, but the aperture is ſufficiently large: the body is broad and thick, but not very long; the back is prominent; the belly flat; the legs are ſhort and robuſt; the claws ſharp, but not very long or ſtrong.

The whole upper ſurface of the body is covered with elegant white ſpines, in the place of hair; they are longer, but not thicker, than the ſpines of the common hedge-hog: the belly is covered with a pale-coloured, harſh kind of hair, and the legs are alſo covered with a hairineſs of the ſame kind, ſhort, harſh, and not very thick ſet.

It is a native of the American iſlands; Ray and others call it Erinaceus Indicus albus.

DASYPUS.

THE body of the Daſypus is covered with a kind of bony or horny coat of mail.

Daſypus cingulo ſimplici.
The Daſypus, with a ſingle belt.

The Weaſel-headed Armadillo.

This is a ſingular and beautiful creature: the body is about nine inches in length, and five in breadth, and is covered by nature with a kind of coat of mail, or pointed armour, the ſubſtance of which reſembles tortoiſe-ſhell in ſome degree, but is much more firm and hard: the head is ſmall, and of an oblong form; it is broad and flatted on the crown, and thence becomes gradually narrower to the extremity, where it is very ſmall and ſharp: the eyes are ſmall; the ears are about half an inch long, patulous, and diſtant about an inch and a quarter from one another; the noſtrils are wide, the mouth is ſmall: the neck is ſhort; the body is of a flatted figure, but ſomewhat prominent on the back; the tail is about four inches long, and is ſlender; the legs are very ſhort, and the feet large; the toes remarkably long.

The head, the back, the ſides, and the thighs are all covered with a cruſtaceous and firm armature, which extends itſelf alſo over the tail: the coverings of the head and of the legs are compoſed of ſquammæ or ſcales of a roundiſh figure, and of about a quarter of an inch in diameter: the neck is covered with a ſingle lamina, compoſed of many ſmall fruſtules of a ſquare figure: the ſhoulders are covered with a compages of vaſt multitudes of ſquare ſegments of ſcales; the covering of the back, from the ſhoulders to the tail, is compoſed of eighteen moveable laminæ or plates, connected by intermediate cartilages or membranes; the anterior laminæ are compoſed only of ſquare pieces or ſcales; the hinder ones of mixt ſquare and round ones: the farther part of the covering at the tail is of a parabolic figure; the anterior part of the tail is covered with ſix annular laminæ, compoſed of ſmall, ſquare ſcales; the hinder part of it is covered only with ſcales not arranged with laminæ at all: the breaſt and belly are naked.

This is a native of many parts of America, and is often brought over dried to us. All the late authors have deſcribed it; they call it Tatu Muſtelinus, the Weaſel Armadillo.

Daſypus cingulis ſex.
The Daſypus, with ſix belts.

This is a larger ſpecies than the former, and not leſs ſingular or beautiful; it is of the bigneſs of a young pig, and is not unlike one in form: the head is exactly of the hog-kind; the forehead is large and depreſſed; the ſnout is ſlender and ſmall, but obtuſe; the eyes are ſmall, and ſunk deep in the head: the ears are ſhort, of a brown colour, patulous at their baſe, and naked; the mouth is ſmall; the tongue is narrow and pointed, and the teeth are about eighteen in each jaw: the neck is ſhort and thick; the body is corpulent, thick, and elevated on the back: the tail is ſhort; the legs alſo are ſhort, and the feet have ſomewhat of the appearance of the human hand.

The head, the whole body, and the tail are covered with a kind of coat of mail; it is of a bony ſtructure, and is compoſed in an elegant manner of ſcales: behind the head there are two joints, theſe ſerve for the motions of the neck; on the back there are ſeven of theſe diviſions, at which the ſcales are joined by a brown ſkin, that ſhews itſelf between them; theſe ſerve for the giving way to the motions of the back, as the others do to thoſe of the neck; the reſt of the covering is entire: the breaſt, belly, and throat are without any of this armature; the ſkin of theſe parts is naked, only that there grow certain hairs at a ſmall diſtance from one another; theſe are of a finger's breadth long, and of a white colour: there are alſo ſome hairs of this kind diſpoſed in manner of whiſkers about the mouth and the ſkin, between the ſeveral ſcales of the armature, alſo has many of the ſame kind growing from it.

The legs are covered with a ſlighter armature; the tail is very thick at it's origin, but it grows gradually ſmaller to the extremity.

This

This is a native of many parts of South America; it feeds on vegetables, and will make it's way into the ground to get at their roots, in the manner of a hog, by burrowing with it's noſe. It eats alſo fruits, and is particularly fond of melons; it will alſo feed on inſects. It uſually is found on hilly grounds, but ſometimes about waters; it's fleſh is eſculent, and of an agreeable flavour. The writers on the American animals have all deſcribed it. Marcgrave and others have called it Tatu vulgaris, and Armadilla vulgaris.

Daſypus cingulis ſeptem.
The Daſypus, with ſeven belts.

The Tatuete.

This is of the bigneſs of a large cat: the head is oblong and ſmall; it is broad at the forehead, and narrower all the way to the ſnout, which is very ſmall, but obtuſe: the ears are conſiderably long, and are carried erect; the eyes are ſmall, black, and depreſſed; the noſtrils are wide: the body is thick and oblong; the back is elevated, and the belly is ſomewhat prominent; the tail is ſhort, but it is proportionably longer than in either of the former ſpecies: the legs are alſo ſhort, though leſs ſo than in the others; and they have this ſingularity, that the fore-feet have only four toes, and the hinder ones have five; of theſe the three middle ones are large and long, the two lateral ones ſhort: the top of the head, and the whole body are covered with a ſcaly armature, of the hardneſs of bone; and this is ſo large, that the creature can with eaſe draw back it's legs and head, ſo as to remain wholly covered with it: the belts, or tranſverſe pieces of which this covering of the back is compoſed, are ſeven; they are ſeparated by naked places, covered with a tough and firm brown ſkin: the ſcaly matter is of a deep brown colour, and very firm ſtructure; the tail is covered with the ſame kind of armature, and has as many joints as there are in the body.

The throat, the breaſt, and the belly, as alſo the inſide of the legs, and the under part of the tail are all covered with a tough, but not hard, ſkin; this is of a brown colour, and has a few ſhort and white hairs ſcattered over it.

This, as well as the preceding ſpecies, is frequent in South America; they feed, in the ſame manner as the others, indiſcriminately on animals of the ſmaller kind, and on vegetables, and their fleſh is eſteemed at table. Marcgrave and the other Braſilian writers have deſcribed this under the Braſilian name of Tatuete.

Daſypus cingulis tribus.
The Daſypus, with three belts.

The oriental Armadilla.

This is equal to the laſt deſcribed ſpecies in ſize: the head is ſmall, in proportion to the body, and is of an oblong and ſomewhat conic figure; it is large, and rounded at the crown, and thence gradually becomes ſmaller to the ſnout, where it is very ſlender, but obtuſe; the eyes are ſmall and black; they do not ſtand prominent, but appear rather ſunk in the head: the ears are about three quarters of an inch long, erect, patulous, and brown; the noſtrils are wide; the mouth is not very large, and there are ſome whiſkers of a grey colour about it.

The neck is ſhort and thick; the body is oblong, rounded, and thick; the tail is very ſhort; the legs alſo are very ſhort, but the feet are large; they are formed in the manner of hands, and the toes are very long.

The whole back, the neck, the head, and the tail, and alſo the upper and outer part of the legs, are covered with large ſcales, forming a kind of bony armature for every part, where the creature could be liable to hurt: thoſe on the back are placed tranſverſely, and are ſo broad, that three of them reach the whole length; theſe are connected by a bluiſh-tough ſkin, on which there grow a few white hairs: the head, tail, and legs are covered with ſmaller and more numerous ſcales of the ſame kind; the breaſt and belly are covered with a very firm and tough ſkin, like that between the ſcaly belts of the back; it is of a livid colour, granulated in ſome degree, and has



The Cata-Mountain



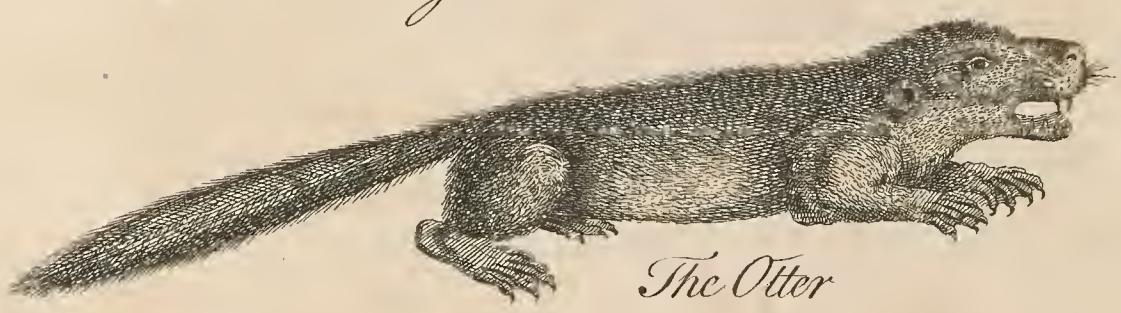
The Lynx



The Gulo



The Martin



The Otter



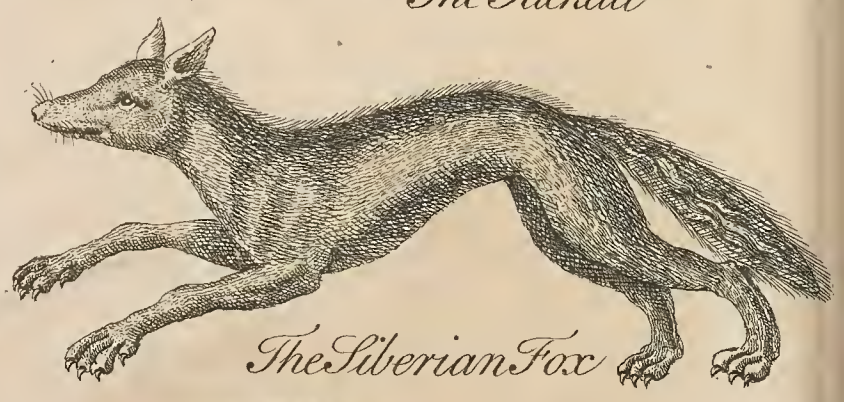
The Cat



The Wolf



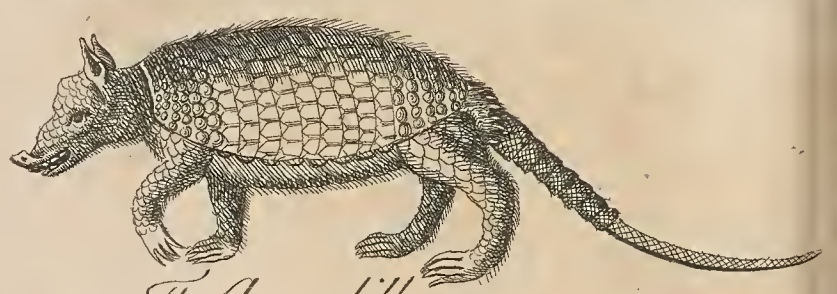
The Jackall



The Siberian Fox



The Sea Calf



The Armadilla



The Civet Animal



The Hedgehog

B. Cole Sculp.

has a few ſhort grey hairs growing on it: the whole upper ſurface is of a ferrugineous brown, the under one of this duſky blue.

It is a native of the Eaſt Indies. It is frequent in the woods, where it feeds not only on beetles and other inſects, but alſo on fruits. It's fleſh is not eaten, but it is probably as worthy a place on the table, as that of the ſeveral American kinds, which are all eſteemed delicacies by the natives. Few authors have been acquainted with this ſpecies; thoſe who have, call it Tatu orientalis.

Daſypus cingulis quatuor.
The Daſypus, with four belts.

The Water Armadillo.

This is larger than many of the other ſpecies: it's head is large, and ſhorter than in any other; it is broad and depreſſed acroſs the forehead, and thence becomes ſmaller to the ſnout, but it is then of ſome conſiderable breadth, and obtuſe: the eyes are large, black, and ſomewhat prominent; the ears are ſhort, erect, and patulous: the noſtrils are narrow; the mouth is ſmall, and has about it a few hairs by way of whiſkers: the neck is ſhort, thick, and of a kind of conic form, largeſt at the joining with the ſhoulders, and ſmaller to the head: the back is broad and elevated; the belly is ſomewhat prominent; the tail is ſhort, and largeſt at the baſe, whence it tapers very ſwiftly to the extremity: the legs are ſhort, and not very robuſt, and the feet which are large have the toes very long, and diſpoſed in form of fingers.

The head, neck, back, and tail are covered with a bony armature, of a yellowiſh-brown colour, diſpoſed in the manner of ſcales: the head and tail have ſmall ones; the back is covered by only four tranſverſe pieces, which are broad, and are connected by a tough ſkin of a duſky colour, with a few hairs on it, ſtanding up between the crevices: the breaſt, belly, and throat, as alſo the under part of the tail, and the inſides of the legs, are all covered with the ſame firm and tough ſkin, and this has alſo in all thoſe places a few of the ſame ſhort brown hairs.

This is a native of America, and it is ſaid to be alſo found in ſome parts of Europe. Some of the old writers have mentioned it under the name of Cheloniſcus.

Daſypus tegmine tripartito.
The Daſypus, with the covering tripartitely divided.

The African Armadilla.

The head of this ſpecies is long and ſlender; at the crown it has ſome breadth, and is depreſſed; thence it gradually becomes ſmaller to the ſnout, where it is ſmall, but obtuſe, and rounded: the eyes are little, and ſunk in the head; the ears are ſhort, but erect and patulous; the mouth is ſmall, and is encompaſſed with a kind of whiſkers.

The neck is moderately long and ſlender; the body is broad, oblong, of an ovated form, and elevated on the back: the tail is very ſhort; from a very large baſe it tapers ſuddenly to a ſmall point: the legs are ſhort and weak; the feet are large; the toes long and ſlender, and the claws alſo long and weak.

The back is covered with a ſtiff and ſtrong armature, of a bony rather than a ſcaly nature, and of a brown colour; this is divided beautifully in a tripartite order: the head and tail are alſo covered with the ſame ſort of mail: the belly and breaſt are naked, and of a yellowiſh-brown colour, and there are a few looſe hairs ſcattered at diſtances all over theſe parts.

This is a native of Africa, and is found about the borders of rivers; it feeds on roots, which it gets out of the ground, as the hog does, with it's noſe: it will alſo eat inſects, and ſuch ſmall animals as it can deſtroy. The few writers who have been acquainted with this ſpecies, have called it Tatu ſive Armadillo Africanus.

Daſypus cingulis novem.
The Daſypus, with nine belts.

The three-toed Armadilla.

The head of this ſpecies is oblong and ſlender; it is rounded at the forehead, where it is largeſt, and thence gradually tapers to the ſnout, where it is narrower and ſharper than in any other ſpecies: the eyes are black and large, but they do not ſtand prominent, but are rather ſunk in the head: the ears are ſhort, but they are erect and patulous; the noſtrils are ſmall, and the mouth alſo is ſmall, and is furniſhed with whiſkers: the neck is ſhort and thick; the body is oblong, conſiderably broad, and elevated a great deal on the back: the tail is ſhort, and very thick at it's baſe, but it tapers to a point: the legs are ſhort, but they are robuſt; the forefeet have only three toes each, the hinder ones have five; they are long and ſlender, and are armed with very long and ſharp claws.

This is a native of many parts of South America; it is alſo common to the Eaſt Indies, and to ſome parts of Africa. It burrows holes for itſelf in the ground, and lives in them in the manner of the badger. Few of the writers on beaſts have diſtinguiſhed it with any degree of accuracy; they have probably confounded it with the common armadilla, for it is ſcarce poſſible it ſhould have wholly eſcaped them.

TALPA.

THE feet of the Talpa are conſtructed in an elegant and ſingular manner; they have the form of hands, and are calculated for digging. It has no external ears.

Talpa caudata.
The tailed Talpa.

The Mole.

This is a little animal, and very ſeldom comes in ſight, it's natural habitation being under-ground; it is nearly of the bigneſs of the common rat in the body, but ſomewhat longer, and leſs corpulent: and the legs are extreamly ſhort, neither has it the long tail of that creature, ſo that it does not in the leaſt reſemble it in form: the head is large at the forehead, but it thence becomes ſmall at the ſnout, where it is formed ſomewhat like that of the hog: the mouth is moderately large; the teeth are ſharp, and ſome of them are divided or terminated by ſeveral points, as in the mus araneus: the neck is extreamly ſhort; there ſcarce ſeems, indeed, to be any, but the head may be ſaid to be affixed between the ſhoulders: the body is long and rounded; the tail is very ſhort and hairy, there are no external ears; it has been ſaid alſo that the creature has no eyes, but this is a vulgar error; the eyes are indeed extreamly ſmall, and are not eaſily ſeen, unleſs the hair about the top of the head be blown upon, ſo as to ſeparate it; but then we ſee, in the proper place, two very bright and black eyes, though not larger than the heads of ſmall pins: the legs are very ſhort, and the feet broad; the toes are five on each: the fore-legs have the vola of the foot extended into a kind of palm, like that of the human hand; and the claws on the toes are larger, broader, and more robuſt than on any other animal of a proportionate ſize: the ſkin is thick, and the fur which covers it is a very fine and ſoft down, of a bluiſh-black colour. We have ſeen ſome quite white, but this is an accident that happens to birds as well as quadrupeds.

It is frequent in our paſtures, burrowing at a ſmall depth under-ground: it feeds on worms, and on the roots of graſs, and is very miſchievous, by throwing up the ground.

Talpa

Talpa acauda.
The tail-leſs Talpa.

The painted Mole.

This is larger than the common mole: the head is large and oblong, broad at the top, and narrow, but obtuſe at the ſnout: the eyes are very minute, and ſcarce viſible, without ſome pains in the ſeeking after them; there are no ears: the mouth is ſmall, but the teeth are ſharp, and the creature uſes them very boldly, biting any one that touches it in a very violent manner: the body is long, thick, and rounded; there is no tail, not indeed ſo much as the leaſt rudiments of one: the legs are ſhort, and the feet are broad, and formed like hands: the fur with which the creature is covered is ſhort and fine, but very thick; it is of a mixed colour, in which a purpliſh and a yellowiſh tinge ſeem the prevailing ones, but neither of theſe is ſeen diſtinct in any light: the mixture, when the eye is thrown full upon it, forms a kind of brown, and in ſide lights has many varied tinges, in the manner of the changeable ſilks.

This is a native of the Eaſt; it lives under-ground, in the manner of our mole, and feeds on inſects, and on the roots of plants.

VESPERTILIO.

THE Veſpertilio, from it's power of flying, has been generally ranged among the birds, but with the utmoſt impropriety. That it is, in all reſpects, a quadruped, will appear by it's characters.

The fore-teeth of the upper jaw are ſix in number, they are acute and diſtant; the fore-teeth of the lower jaw are alſo ſix, and they are acute and contiguous: the canine teeth are two above, and two below, on each ſide: the feet have each five toes, as well the hinder ones as the fore ones; the fore-feet have the toes connectedby a membrane, and expanded into a ſort of wings.

Veſpertilio caudatus, ore naſoque ſimplici.
The Veſpertilio, with a tail, and with the mouth and noſe ſimple.

The Bat.

This creature's having the power of flying has made it be ranked by many as obſerved among the birds, but it has the mouth of a quadruped, not the beak of a bird; it has hair on the body, not feathers, and it produces it's young alive, not under the form of eggs. It has indeed no one thing in common with that ſeries of animals but it's flying, and the flying lizard, or the flying ſquirrel, may as juſtly be numbered among them.

The common bat is of the bigneſs of the mouſe, and very much reſembles it in ſhape and colour: the head is large and oblong; the forehead is prominent, and the noſe ſmall but obtuſe: the ears are ſmall, erect, and patulous; the eyes are moderately large and prominent; the noſtrils are open, and the mouth is large, and the teeth ſharp: the neck is ſhort, the body is oblong and bulky; the tail is moderately long, and the hinder legs ſlender, but not ſhort: the toes are long, and are armed with ſharp claws.

The fore-feet are expanded with a kind of leather wings; the toes are very long, and ſerve as ribs to ſupport and move the tough membrane that is expanded between them. Theſe wings, as they are called, ſurround the body, and are continuous one to the other, and at the bending of them there is a kind of hook, by which the creature fixes itſelf to trees, walls, or other parts of buildings, or even to rocks: the colour of the fur is that of the common mouſe, only with a tinge of the olive: the membranes, forming what are called the wings, are of a duſky hue. The female has

two

two teats, and the young are produced two at a birth; the parent, while they are unable to take care of themſelves, flies about with them, adhering to her body.

This is common in all parts of Europe; we have it about churches, and other old buildings, in great abundance. It hides itſelf, during the day, and flutters about in the evening, preying on moths and other inſects. All the writers on animals have deſcribed it; they call it Veſpertilio, and Veſpertilio vulgaris; we the Bat and the Flitter-mouſe.

Veſpertilio cauda nulla.
The Veſpertilio, without a tail.

The Eagle Bat.

The ſize and fierceneſs of this ſpecies have obtained it the addition of eagle to it's name; it is a very ſingular and formidable animal: the body is twenty inches long, and conſiderably thick, in proportion; and, when the wings are expanded, it is not ſmaller in appearance than the bird from which it is named: the head is large, of an oblong figure, and obtuſe; the ears are ſhort and patulous, erect, and covered with a very fine down: the eyes are large, black, and prominent: the mouth is large, and well furniſhed with teeth; the neck is ſo ſhort, that the head ſeems ſet on immediately to the ſhoulders; the body is thick and fleſhy, there is no tail: the ſlender legs are moderately long and fleſhy, and the fore-ones are expanded into a kind of leathery wings meeting over the back, and, when open, of a moſt ſurpriſing expanſe: the back is covered with a tolerable long fur; the belly with a ſhorter: that of the back is of a duſky and diſagreeable dun colour, that of the belly is paler.

This is a native of the Eaſt and Weſt Indies; it lives in caverns of the mountains, and often terrifies people by it's fluttering in a ſtrange manner. Many authors have mentioned a bat of this enormous ſize, but few have deſcribed, or even named it, in ſuch a manner, as to convey an idea of it's diſtinctions.

Veſpertilio caudatus labio ſuperiore bifido.
The tailed Veſpertilio, with the upper lip bifid.

This is a very large ſpecies, but not nearly equal to the preceding in that reſpect: the head is of an oval figure, large at the crown, and ſmaller at the noſe, but obtuſe there: the ears are large and erect, but not very high, in proportion to their expanſe: the eyes are large, prominent, and black; the mouth is wide, and furniſhed with ſtrong and ſharp teeth; the upper lip is divided in the manner of that of the hare: the neck is very ſhort, the ſhoulders are large; the back is broad and flat; the whole body is corpulent, but the tail is moderately long, and the hinder legs are robuſt; the wings formed of the fore-pair are very broad, and of a bluiſh colour: the whole body is covered with a ſoft and fine down, of a deep lead colour; ſometimes there have been ſeen ſome of them white, but that is accidental and uncommon.

This is a native of South America, and is frequent in caves, and other dark and retired places. Some of the writers on animals have called it Veſpertilio cato ſimilis. The ſame writers have called the preceding ſpecies alſo Canis volans, but theſe are arbitrary names, and expreſſive of nothing, except faintly of the ſize.

Veſpertilio caudatus naſo foliato acuminato.
The tailed Veſpertilio, with a foliated, acuminated noſe.

This is larger than the common bat, but it does not approach to either of the two former in ſize: the head is of a ſingular figure, oblong, depreſſed, and acuminated at the noſe: the crown is large and flatted; the front is leſs depreſſed, and the extremity at the mouth is ſharp and foliated; the ears are ſhort, erect, and patulous; the eyes are ſmall, but they are prominent; the mouth is wide, and well furniſhed with teeth: the neck is very ſhort and thick; the body is broad and flatted; the tail is

ſhort,

ſhort, and the hinder legs are ſlender, and not very long: the wings formed of the fore-feet are large; they meet over the back, and extend to a vaſt width, when opened: the membranes which compoſe them are thin, but very tough, and of a dun colour.

The whole body is covered with a ſoft and fine down; the back is of a very deep olive colour, with an admixture of a ſooty black: the belly is paler, but of the ſame tinge; both the olive and the ſmoaky and dingy black are eaſily diſtinguiſhable in it: the front of the head is paler than any other part, and the ears are yet paler than that.

This is common in the caverns of rocks, and in buildings of all parts of America; and flies about in an evening, juſt in the manner of our bat.

Veſpertilio caudatus naſo foliato obverſe cordato.
The tailed Veſpertilio, with a foliated and obverſely cordated noſe.

The flying Mouſe.

This is of a middle ſize, between our common bat and the laſt deſcribed, and is a very ſingular creature: the head is large, in proportion to the body; the ears are ſhort, erect, and patulous; the eyes are ſmall, black, and prominent: the mouth is large, and well furniſhed with teeth: the noſe is of a very odd figure, ſomewhat divided at the end, and foliated, as in the former, but not pointed, but obverſely cordated; the heart part or emarginated end being the extremity: the neck is ſhort and very thick; the ſhoulders are large; the body is fleſhy; the back rounded, but the belly ſomewhat flat: the tail is ſhort and ſmall; the hinder legs very ſlender and long, eſpecially in the lower joint; the wings formed of the expanded fore-feet are broad and brown: the fur of the whole body is ſhort and thick; it is of a duſky ferrugineous colour, and ſomewhat paler on the breaſt than elſewhere; for on the belly it is as dark as on the back.

This is frequent in the Dutch Spice-Iſlands, and I don't know that it is met with elſewhere. The Dutch call it by a name expreſſing the Flying-mouſe; and many authors, Glis volans.

QUADRUPEDS.

Claſs the Fifth.

JUMENTA.

THE teeth of the Jumenta are few in number, and diſpoſed in an irregular manner; often they differ from one another extreamly in ſize and figure.

ELEPHAS.

THERE are no fore-teeth in the mouth of the Elephas: the upper canine teeth are very long; the anterior part of the head is alſo furniſhed with a very long and flexible proboſcis: the teats are two, and they are ſituated on the breaſt. Of this ſingular genus there is only one known ſpecies.

ELEPHAS. **The Elephant.**

The ſize of the elephant alone, had it no other diſtinctive character, would be ſufficient to make it known from all the other animals in the world; but it has ſingularities of the moſt ſtriking and obvious kind, beſide this. When at full growth, it meaſures from ſeventeen to twenty feet in height, from the ground to the higheſt part

of the back, and it's body is withal ſo enormouſly bulky, that the belly reaches nearer the ground than could be eaſily conceived of that of a creature of ſuch height: the head is large, and of a kind of ovated figure, large and broad at the temples, and ſmaller to the mouth: the extremity is continued to a great length, in form of a proboſcis or trunk, which it uſes, in the place of a hand, to reach it's food to it's mouth; and, on other occaſions, to ſave the trouble of much motion in it's unwieldy body: from the ſides of the upper jaw there grow two teeth of ſo enormous a length and ſize, that, to thoſe who have not ſeen the animal, it appears ſcarce to be conceived, that any creature can carry them; theſe are what furniſhes us with ivory, and we ſee them of between three and four hundred pounds weight the pair: the mouth is ſmall, in proportion to the bigneſs of the creature; but, beſides theſe enormous teeth which hang out of it, there are in each jaw four grinders confined and hid within it, which are of a ſcarce leſs ſurprizing magnitude and ſtructure; they are compoſed, as it were, each of many other ſmaller teeth joined together, and they are oblong, high, flatted, and level at the top, excepting for ſome tranſverſe, undulated ridges, by means of which they grind their food.

The eyes are very ſmall, in proportion to the bulk of the head: the ears are large and membranaceous; the legs are of an amazing thickneſs, and the feet are very broad; they are not covered each with a ſingle hoof, in the manner of the baſe, but is divided into toes; theſe, however, do not ſtand ſeparate, as in the generality of quadrupeds, but adhere one to the other, and are all covered by the ſame common ſkin, only the extremities of them appear at the verge of the foot, and they are there armed with broad and obtuſe claws or nails: the tail is ſmall, ſhort, and inconſiderable.

The whole body is covered with an extreamly thick and ſtrong ſkin, of a kind of mouſe colour, with an admixture of tawny; it is not naked, as ſome have aſſerted, but has a few long and very rigid hairs growing at diſtances on it: it is all over covered alſo with a kind of tubercles and excreſcences reſembling warts, which are ſplit deeply in ſeveral parts, and in different directions, down from the ſurface; theſe are of a ſomewhat darker colour than the reſt of the ſkin, and, when they are cut, have a great reſemblance of whale-bone: theſe tubercles, though divided and cracked in this manner, adhere, in a very firm degree, to the ſkin, ſo that it is impoſſible to tear off either a whole one, or even but a part of one, without ſeparating a portion of the ſkin with it.

The proboſcis or trunk of the elephant is, properly ſpeaking, nothing but the noſe continued to a greater length; the ſubſtance of it is firm, but fleſhy, and it is compoſed of three ſeries or orders of fibres: the creature has, among the variety of motions which it can give, this ſingular organ or power of retracting or protruding it forward with great violence; and the difference of it's length, when thus contracted or extended, is not leſs than from one foot to five, or more. The aſpera arteria or windpipe is large, and has no epiglottis to defend it from the entrance of any thing; it is quite diſtinct from the œſophagus, ſo that there is no danger of any thing getting down it in the creature's ſwallowing it's food, or drink; but it would be very eaſy for any little animal, that made it's way in at the aperture of the trunk, to creep down into the lungs; and, to defend itſelf againſt this, it always ſleeps with it's trunk, applied cloſe to the ground at the extremity, ſo that nothing but air can get in.

The ears, which are very large, are dentated round the edges, and they hang in an irregular pendulous manner, nor are ever erected, except when the creature is provoked, at the ſame time that theſe are contracted, and in ſome degree erected, for it is but in an imperfect manner that the elephant has this in it's power: the ſnout is alſo contracted to it's ſhorteſt dimenſions, ſo as to be held in readineſs to dart out on the enemy with full violence: the ſoals of the feet are not covered with any thing horny or firm, but with a mere ſkin, and this indeed thinner than that of the reſt of the body, and eaſily cut through with a knife. The eminences in the circumference of the foot are five; they are ſhort, and anſwer to ſo many toes; and under the ſkin which covers the toes, down to the diviſion of theſe, there is lodged a great quantity of fat for the keeping them ſoft, and preventing their rubbing againſt one another: the large

large teeth are hollow, and have a medullary ſubſtance running up a great way on them: the grinders are ſolid, and their weight is very great.

The elephant is a native of Africa, and ſome other of the warmer countries, and even of ſome colder climates. We have ſeen them occaſionally preſerved alive with us, and ſhewn as curioſities. All the writers on animals have deſcribed it, under the name of Elephas.

RHINOCEROS.

THE Rhinoceros has in each jaw eleven fore-teeth; there are no canine teeth: the noſe is ornamented with a ſingle or double horn, which is permanent.

Rhinoceros cornu unico.
The Rhinoceros, with a ſingle horn.

The common Rhinoceros.

This, of all quadrupeds, approaches neareſt to the elephant in ſize, but it is not equal to it in that reſpect: the body is nearly as bulky, but the legs are much ſhorter. A full-grown Rhinoceros meaſures fourteen feet from the ground to the higheſt part of the back, and the legs are ſo remarkably ſhort, that, with all this height, the belly comes near the ground: the head is very large and oblong, of an irregular figure, broad at the top, and narrower and depreſſed toward the ſnout: the ears are very large and long; they in ſome degree reſemble thoſe of a hog, and are ſoft, and covered with a tender ſkin: the eyes are very ſmall, and there is ſomething extreamly ſingular in their ſituation; they do not ſtand on the upper part of the head, as in other animals, but at a ſmall diſtance from the extremity of the ſnout: on the upper part of the ſnout, near the extremity of it, there ſtands a horn of a conic figure, and very ſtrong; it grows to about two feet and a half in length, and is a little bent backwards; it's colour is black, and it's ſubſtance very firm and hard.

The neck is ſhort and very thick; the body rounded, and enormouſly big; the legs are very thick and clumſy to appearance, but all that ſtrength is neceſſary to their being able to ſupport ſo immenſe a bulk of body: the feet are broad, and divided into toes; and the tail is ſhort, and furniſhed with ſome long and extreamly thick black hairs.

The colour of the creature is a dirty tawny; the ſkin is remarkably thick and hard; it is, indeed, ſo hard, that the creature could not eaſily turn itſelf in any directions, but that nature has formed a kind of joints and folds in it; by means of theſe it moves it's body, though in an unwieldy and awkward manner.

It is a native of ſome parts of Aſia and Africa; it generally frequents the parts of the country which are far from the reſort of men: it feeds on vegetables. We ſometimes have it brought into Europe, and ſhewn as a curioſity. The ſkin of this creature, like that of the elephant, is covered at little diſtances with a kind of low protuberances, reſembling warts; theſe have all hairs growing out of them, but they are but few, and are very thick and black. It is not eaſy to ſay to what length they would grow, were they left to themſelves; for the creature is ſubject to itchings of the ſkin, and rubs them all off at but a little height above the ſkin. The horn alſo often ſhares the ſame fate. There is one now kept as a ſhew in London, in which the horn is not more than three inches high, and obtuſe, which is owing to the creature's continually rubbing it down againſt the walls and boards of the place where it is kept.

Rhinoceros cornu gemino.
The double-horned Rhinoceros.

This is a large, unwieldy animal, in moſt reſpects greatly reſembling the former: the head is enormouſly large and long; it is ſo bulky, that the creature ſeems to find pain

pain in holding it up, and is always ſeen in the wild ſtate with it in a depending poſture: the ears are large; the eyes ſmall, and placed near the extremity of the ſnout: at the upper part of the noſe, and near it's tip, there grows a large horn, as in the other ſpecies; and, juſt behind it, another of the ſame form and colour, but ſmaller; they are both of a firm and hard texture, and pointed at the extremities; but the larger never grows to ſo great a length in this ſpecies, as in the other, which has it ſingle.

The neck is moderately long and thick, eſpecially toward the ſhoulders; the body is of the ſame enormous bulk as in the other; the legs alſo are very thick and ſhort, and the feet in the ſame manner divided into toes: the tail is about a foot and a half long, not very thick, naked for three fourths of it's length, but at the tip furniſhed with hairs not very numerous, but thick, and conſiderably long.

The ſkin is thick and hard, as in the preceding ſpecies, and in the ſame manner is covered with little protuberances, in form of warts; the hairs are few, but they are very thick and ſtrong; they ariſe from theſe, and are black, and of ſome length.

This is a native of ſome parts of the world with the former; travellers have ſeen it living, but we never had one brought over to Europe. We have ſometimes met with the horns preſerved, with a part of the ſkin of the head to which they grow; ſome of our muſæums afford ſpecimens of theſe, by which we are aſſured of their ſituation, a circumſtance concerning which many have erred.

HIPPOPOTAMUS.

THE fore-teeth of the upper jaw of the Hippopotamus are four, they are placed in pairs, and at ſome diſtance; thoſe of the lower jaw are prominent, and the intermediate ones are protended forward: the canine teeth are ſingle and obliquely truncated; the teats are only two, and they are placed near the groin.

Hippopotamus cauda brevi.
The Hippopotamus, with a ſhort tail.

The Sea-horſe.

This is a very large and unwieldy animal; it is equal to a common ox in ſize: the head is very large, oblong, and ſomewhat depreſſed, and is obtuſe and thick toward the roſtrum or extremity: the ears are about three inches in length, ſo that they appear ſmall, in proportion to the bulk of the head: the eyes are ſmall, and ſtand not very high in the head; the mouth is very wide, and the teeth very large and ſtrong: the canine ones are not exerted as in the boar, but, when the mouth is opened, they make a very formidable figure; they are ſix inches long, and nearly as much in circumference, and are not rounded, but of a ſomewhat flatted and trigonal figure; they are harder than the teeth of any other known animal, very few tools will make the leaſt impreſſion on them, and they will give fire in great plenty on being ſtruck againſt a ſteel, in the manner of flint.

The neck is moderately long, and very thick; the body is extreamly bulky, and rounded: the legs are very thick, and are between three and four feet in length: the foot is twelve inches in breadth, and is divided into four toes each, armed with a claw of near three inches in breadth, rounded and obtuſe.

The tail is very ſingular in it's form, it more reſembles that of the tortoiſe than of any other animal; it is not more than ſix inches in length, and is of a conic figure, very thick at the baſe, and thence tapering very ſwiftly to a point: the creature moves it up or down at pleaſure, but it has no power of bending it.

The ſkin is very thick and black, it is perfectly naked; there is not the leaſt appearance of hair on it, only that about the mouth there are a kind of whiſkers, as cats have.

This

This is a native of Egypt, and ſome other warm climates. It frequents rivers, and paſſes a great part of it's time under water, but it comes out of it to ſleep and to breed. The Nile and the Niger, and ſome other large rivers, abound with it. It feeds on vegetables, and is particularly fond of the roots of ſome of the water plants. It does not ſwim under water, as moſt of the amphibious animals do, nor are it's feet at all formed for that purpoſe; it's weight and bulk would alſo render it very unfit for ſuch motions. It walks on the bottom, and feeds on the vegetables which are produced there. All the writers on animals have named it. Ray and others call it Hippopotamus; Bochart ſuppoſes it to be the Behemoth, mentioned in the book of Job.

Hippopotamus acaudatus capite graciliore.
The ſlender-headed Hippopotamus, without a tail.

The Tapijerete.

This is of the bigneſs of an aſs, only that it's body is much more bulky and unwieldy: the head is large and oblong, it ſomewhat reſembles that of a hog in ſhape, and is ſlenderer, in proportion to it's length, than that of any other of this genus: the ears are ſhort, but they are very broad, and approach to a roundiſh figure; they uſually hang pendulous in ſome degree, but the creature at pleaſure renders them rigid, and they are in that ſtate not erected, but only protended forward: the eyes are ſmall and black; the mouth is large and formidable, and the teeth are thick and obtuſe.

The neck is ſhort, and very thick; the body is thick, and in ſome degree reſembles that of a hog in figure; the ſkin is very tough and thick, and is not naked, as in the former ſpecies, but covered with ſhort and gloſſy hair: it is of a duſky amber colour, when the creature is full-grown; when younger, it is of a paler brown, and ſpotted with black: there is no tail, nor any the ſmalleſt rudiments of one: the legs are ſhort, but robuſt.

This is a native of South America, and lives principally on land, though it will occaſionally frequent the waters for it's food. It eats only vegetables, and it's fleſh is much eſteemed at the tables of the Portugueſe, who have ſettlements in South America. It is frequent in the woods of the Braſils. Marcgrave and others who have written on the animals of that part of the world, have deſcribed it. They call it, by it's Braſilian name, Tapijerete; and ſome, by it's Portugueſe one, Anta.

Hippopotamus acaudatus capite craſſo.
The thick-headed Hippopotamus, with no tail.

The Copy-Bara.

This is the ſmalleſt animal of this genus; the bigneſs is not more than that of a ſmall hog, and it conſiderably reſembles that animal in the ſhape of it's body: the head is enormouſly large and thick, it appears greatly diſproportioned to the body: the ears are ſhort, broad, and roundiſh; the eyes are large and black; the mouth is very large, and it's armature of teeth is very formidable: the neck is ſhort, and very thick; the body is about two feet in length, and a foot and a half in diameter, and is covered with a very tough and firm ſkin, which is not naked, as in the great Hippopotamus, but has a fine gloſſy, though not thick, fur: this is compoſed of thick and moderately long hairs, and is of a duſky tawny, with a ſtrong tinge of brown.

The legs are ſhort, and the feet divided into toes, each of which has a broad and obtuſe nail: the creature has no tail.

This is a native of South America, and ſpends it's time principally in the woods, though it will deſcend into the rivers occaſionally. It feeds on vegetables, and it's fleſh is well taſted, and eſteemed at table. Marcgrave and others have deſcribed it under it's Braſilian name Copy-Bara.

EQUUS.

THE fore-teeth of the Equus are ſix; the upper ones are incurvated, and the inferior are prominent: the canine teeth are not exerted; they are on each ſide ſeparated by a ſpace from the other: the hoof is undivided, and the teats are two, and are ſituated in the groin.

Equus cauda undique ſetoſa.
The Equus, with the tail hairy all over.

The horſe.

The horſe is one of the nobleſt animals of the creation; he is in ſtrength and natural fierceneſs equal to any, and is yet eaſily tamed, and made fit for our purpoſes: ſcarce any creature excels him in ſwiftneſs, any more than in ſtrength, and hardly any in beauty.

The head is long and large; the eyes large and prominent; the ears erect and beautiful: the neck is long and thick, elegantly formed and decorated with a mane of long hair, like that of the lion: the body is rounded, and beautifully turned; the legs are ſtrong without being bulky; the tail is long and hairy all the way; the hairs on it reſemble thoſe of the mane, but that they are longer, thicker, and more beautiful.

The horſe is a native of ſome parts of Europe, and in it's wild ſtate has a great majeſty of appearance; it is kept tame for the purpoſes of draught and carriage, in all the known countries of the world, where it is either native, or to be had by means of commerce.

Equus cauda extrema ſetoſa.
The Equus, with the tail hairy at the end.

The Aſs.

The aſs conſiderably reſembles the horſe in many reſpects, but it gives but a faint and mean copy of that noble animal; it is ſmaller, and wants the ſymmetry as well as the dignity of appearance ſo conſpicuous in that generous animal.

The head of the aſs is long; the ears are very long and narrow: they ſeem much over proportioned in length to the head, and have no very elegant effect in the appearance they give to the whole head: the eyes are large, but they have nothing bright or ſtriking in their aſpect: the neck is moderately long, but it is lank, and not finely turned: the body is rounded, and the back ſomewhat depreſſed; the legs are long and ſlender, and the tail is very long, but it is not hairy all the way, as in the horſe, but only at the end.

The aſs is covered with a ſhort and coarſe fur, of a pale dun colour, and has a ſtreak of black running down it's back, and acroſs the ſhoulders; it's neck does not wholly want the beauties of a mane, but it is ſhorter and leſs regular than in the horſe.

The aſs is wild in many of the warmer countries; and authors, who are fond of multiplying ſpecies, ſuppoſe it different in this wild ſtate from the tame aſs, and call it Onager. Many have deſcribed it under this name as a diſtinct ſpecies, not obſerving that their deſcriptions gave no ſpecific mark of diſtinction.

The horſe and aſs are ſo nearly allied, that they will copulate together, and the produce is a mule; a creature of a middle nature between it's two parents, but incapable of propagating it's ſpecies; ſo careful is nature to avoid filling the world with monſters.

Equus

Equus lineis tranſverſis verſicolor.
The tranſverſely ſtreaked Equus.

The Zebra, or wild Aſs.

This is an extreamly beautiful animal, and, though in colouring ſo extreamly different from all the other kinds and varieties of the Equus, agrees with it in all other reſpects; it is about equal to the common aſs in ſize, but of a much more elegant figure: the head is ſmall and ſhort; the ears are long; the eyes are large and bright, and the mouth is conſiderably large: the neck is long, ſlender, but elegantly turned; the body is rounded and ſmall, in compariſon of that of the aſs: the legs are long and ſlender, but very ſtrong; they ſeem all bone, only juſt covered with the ſkin: the hoof is undivided, and of a deep brown: the tail is long and beautiful, but it is only hairy at the end.

The whole animal is particoloured, or beautifully ſtriped in a tranſverſe direction, with long and broad ſtreaks, alternately of a deep gloſſy and ſhining brown and whitiſh, with ſome abſolutely black: thoſe of the body have their origin from the ridge of the back, and are carried down to the belly, ſurrounding the whole body.

This is a native of many parts of the Eaſt; there are uſually ſeen great numbers of them together, in manner of flocks of ſheep, and they are extreamly ſwift of foot. All the writers on animals have deſcribed it; they call it Zebra and Aſinus Africanus.

S U S.

THE upper fore-teeth of the Sus are four in number, and are convergent: thoſe of the lower jaw are eight, and are patulous: the canine teeth of the upper jaw are two, and they are ſhort; thoſe of the under jaw are ſingle, and they are exerted: the crown of the head is carinated, and the hoof is divided.

Sus dorſo antice ſetoſo, cauda piloſa.
The Sus, with a briſtly back, and a hairy tail.

The common Hog.

Deſcriptions of animals ſo common as the hog, the horſe, and the like, may ſeem impertinent and ſuperfluous; but the utter diſregard to certain objects, becauſe univerſally known at the time, has been the ſource of one of the great deficiencies in the natural hiſtory of the antients. There is alſo this to be ſaid farther, in defence of a ſuccinct mention of the more remarkable and characteriſtical parts, that the creature, in it's native wildneſs, is often unlike, in many reſpects, to thoſe of the ſame ſpecies, which are kept about our houſes, and that the marks of ſuch, while they preſerve the characteriſtics of the animal, may alſo keep up a knowledge of it's genuine condition. Many authors, in regard to this particular ſpecies, have diſtinguiſhed the wild boar and the tame one as if of diſtinct ſpecies, but they are the ſame.

The head of the hog is large and long; the ſnout is terminated by a rounded plane, in which are ſituated the noſtrils; the eyes are ſmall, and not prominent: the ears are ſhorter in the wild ſtate, than as the creature is kept tame, and the roſtrum appears longer, but this is principally from the tame hog being fatter: the neck is ſhort and very thick; the body is extreamly bulky, the belly often hanging down almoſt to the ground: the tail is ſhort and hairy all the way along; the legs are robuſt, but not very thick or long: the back is furniſhed with a broad ſeries of briſtles, and the whole body is covered with two kinds of hair in the wild ſtate, a longer and a ſhorter, but this is leſs diſtinguiſhable in the tame hog.

The hog is a native of Germany, Italy, and many other parts of Europe; it is fond of mountainous places, and generally lives in thick woods. When fed with us, it grows fat in a degree beyond that of any other animal. No creature is more worth attention in regard to profit from keeping, for it is fed at ſmall expence, and will produce

produce as far as twenty pigs at a litter. All the writers on animals have deſcribed it. They call it Aper, Sus, and Sus domeſticus. It is frequent to ſee hogs with undivided hoofs; theſe have been deſcribed as a diſtinct ſpecies, under the name of Sus ungulis ſimplicibus, but this is only an accidental variety; the naked African hog, and the Chineſe hog, though deſcribed alſo as diſtinct ſpecies, are of the ſame kind, only varieties of the common hog.

Sus dorſo pone ſetoſo, cauda nuda.
The Sus, with the back briſtly behind, and with a naked tail.

The American Hog.

This is of the ſize of our common hog: the head is very long; the ſnout truncated and flat; the eyes are ſmall, and the ears are remarkably long, and pointed at the extremity: the neck is ſhort and thick; the body alſo is very thick and clumſy; the legs are ſhort, but remarkably bony and ſtrong; the tail is very long, and has no hairs upon it.

The whole creature is of a duſky and diſagreeable browniſh-red colour; the back is not all the way furniſhed with briſtles, as in the European hog, but only has them on the hinder part, toward the inſertion of the tail.

This is a native of many parts of South America; it is not only wild in the woods, but is kept tame about houſes, for the ſake of it's fleſh, which is equal to that of our hog. The writers on the Braſilian animals have deſcribed it, and from them others. Ray and moſt of the moderns have called it Porcus Guinienſis, the Guinea Hog.

Sus dorſo cyſtifero, cauda nulla.
The Sus, with a cyſt on the back, and with no tail.

The Musk-hog.

This is ſmaller than the common hog, but in moſt reſpects it greatly reſembles it in form; it meaſures about two feet in length, from the crown of the head to the rump, and it is conſiderably thick, in proportion: the head is long and ſlender, as in our hog; the eyes are ſmall, and ſeem in a manner buried in the head: the eyes are two inches and a half long, erect, and pointed at the extremity: the neck is ſhort and thick, the body corpulent; the legs ſhort and robuſt, and formed perfectly like thoſe of our hog, and the feet cloven in the ſame manner, but it is ſingular that it has no tail: the whole body is of a duſky iron-grey colour, and the hair is ſtiffer, and more rigid than in our hog, the whole deſerving the name of briſtles, and every hair being variegated with annular marks of a blackiſh and a deep grey, in ſome with annules of a duſky white; it is from the combination of theſe that the general grey colour ariſes. The briſtles are ſhorteſt on the lower part of the ſides, and they thence become gradually longer to the top of the back, where there is a ridge of them of about five inches long, and in all reſpects perfectly reſembling the common hog's briſtles.

On the middle of the head there ariſes a kind of creſt, compoſed of a large cluſter of briſtles; theſe are very rigid, and are in general black, and on the middle of the back there is a kind of cyſta gland, with an opening at the upper part, in which there is ſecreted a perfumed fluid matter of a mixt ſmell, between that of muſk and civet.

This ſingular creature is a native of Mexico; it's fleſh is eſteemed at table, but it is a cuſtom to cut out the perfumed gland on the back, as ſoon as the creature is killed, otherwiſe it is ſaid to communicate it's ſcent in a very diſagreeable manner to the fleſh. Moſt of the writers on quadrupeds have named it. Marcgrave and others call it Tajacu; Ray after Tyſon, and others after him, Aper Mexicanus moſchiferus, or the perfumed Mexican Boar.

Sus dentibus duobus fronti innatis.
The Sus, with two teeth growing on the forehead.

The Babyrouſſa.

This is a very extraordinary animal; it is of the bigneſs of our largeſt hogs, but is leſs corpulent, in proportion to it's height: the head is oblong, and narrow toward the ſnout, at the extremity of which it is truncated and plain; the neck is thick, and moderately long; the body is rounded and fleſhy, but not ſo immoderately as in our hog: the legs are moderately long, and very robuſt; the hoofs are cloven, and the tail is ſhort and hairy all the way, as in the common hog.

The eyes are ſmall, and do not ſtand at all prominent; the ears are long, erect, and acute: the mouth is large, and well furniſhed with teeth, but there is ſomething ſo ſingular in the ſituation and growth of one of the pairs, that it is ſcarce neceſſary to mention any other diſtinction or character of the animal: there are a pair of exerted teeth in the lower jaw, not unlike thoſe of many other animals; but there are alſo two in the upper jaw, which perforate the fleſh of the head, and ſtand forward in the manner of horns: they have been called horns by many, but their inſertion by Gomphoſis in the jaw ſhews them to be in reality teeth.

This ſingular ſpecies is a native of ſome parts of the Eaſt Indies. Authors call it Porcus Indicus and Babyrouſſa.

QUADRUPEDS.

Claſs the Sixth.

PECORA.

THE Pecora have no fore-teeth in the upper jaw; thoſe in the lower are ſix or eight: the feet are covered with divided hoofs; and the teats are two, and are ſituated in the groin.

CAMELUS.

THE Camelus has no horns; the lip is divided: the fore-teeth of the lower jaw are ſix, and they are broad, and ſtand prominent: the canine teeth of the upper jaw are three; thoſe of the under jaw are only two, and they are ſituated at ſome diſtance from one another.

Camelus topho dorſi unico.
The Camelus, with a ſingle bunch on the back.

The Dromedary.

This is a large and tolerably beautiful animal; it is higher in the back than the horſe, and, when the head is held erect, it is much more ſo, as the neck is longer; but the neck is ſlenderer, as well as longer, than in the horſe, and what it has in height it wants in dignity; the body alſo is proportionably ſmaller: the head of the dromedary is ſmall, and the upper lip is divided in the manner of that of the hare: the ears are ſhort; the eyes are large, and the opening of the mouth but ſmall: the neck is ſlender and rounded; the body is alſo rounded, and on the back there is a ſingle and large callous protuberance: the legs are long and tolerably robuſt, but leſs ſo than in the horſe-kind: the feet are large and broad, and each has two obtuſe nails at the front: the ſoal of the foot is very broad; it is flat and fleſhy, and is covered only with a ſoft ſkin.

There are ſix calloſities on and about the knees, which nature has provided to be of uſe to it, in that frequent bending and reſting on theſe parts, which is neceſſary for

it's own purpoſes, as well as thoſe of mankind who employ it; and there is a ſeventh calloſity much larger than thoſe on the breaſt; this is eight inches long, ſix broad, and two thick.

The dromedary is a native of many parts of the Eaſt, but it is leſs frequent than the camel: it is ſwifter than that creature, but leſs ſtrong, and is uſed for riding on, more than for carrying heavy loads.

Camelus tophis dorſi duobus.
The Camelus, with two bunches on the back.

The Bactrian Camel.

There has been great confuſion of names between this and the former ſpecies. As moſt of the more accurate writers have called this the camel, and that the dromedary, there have been many who have called that the camel; and, when we apply the term dromedary to expreſs a creature that moves ſlowly, we ſeem to have underſtood this ſpecies of the camelus originally by that name. The vulgar ſeem to continue their opinions; but the more accurate all uſe the words in this ſenſe, in which they ſtand here.

The camel is larger than the dromedary, and, when it holds up it's head, is indeed of an immoderate ſize, in regard to height: the head is ſmall and ſhort; the ſnout is obtuſe, and the upper lip is ſplit or divided in the manner of that of a hare: the eyes are not large, but they ſtand in a bold and prominent manner; the ears are ſhort, and the upper part of the head is ſomewhat depreſſed: the neck is very long and ſlender, though not ſo much ſo as in the dromedary; it is of a figure approaching to rounded, but ſomewhat flatted: the breaſt is broad; the body is rounded and bulky, and on the top of the back there ſtand two large bunches or protuberances, which ſeem as if formed by nature for the fixing of burthens: the legs are robuſt, but ſlender, and conſiderably long, and the feet are broad and tender, and divided juſt in the manner of thoſe of the dromedary: the tail is ſomewhat ſhorter than in that ſpecies; from the baſe to the extream hairs it is not more than two feet in length.

The covering of the whole body is a ſoft and fine fur; the hairs are ſhorter than thoſe of our ox-kind, and greatly ſofter to the touch: thoſe on the head, at the throat, and on the top of the neck, are much longer than the others, and the longeſt of all grow about the bunches on the back: there are ſome in that part which are nearly a foot in length, and they ſtill are ſoft and flexible, not rigid and harſh, as thoſe of the mane and tail of the horſe.

The camel is a native of many parts of Aſia, particularly of Bactria, the name of which country makes a general part of it's denomination. It is of great uſe in the Eaſt in carrying burthens. Almoſt all the writers on this ſubject have deſcribed it under the name of Camelus and Bactrianus.

Camelus dorſo lævi, pectore gibboſo.
The Camelus, with the back even, and the breaſt gibboſe.

The Glama.

This is an extreamly ſingular animal; it has been ſuppoſed by moſt a ſpecies of ſheep, though very abſurdly; it is truly a camel, though in many reſpects different from the two generally known ſpecies juſt deſcribed; it is about four feet in height from the ground to the top of the back, but if meaſured to the head, when that is held erect, it is greatly taller: the length of the creature, from the head to the rump, is about ſix feet: the head is ſmall; the roſtrum is obtuſe, and the upper lip is divided in the manner of that of the hare, or exactly as in the common camel: the eyes are large and protuberant, and the ears are ſhort; the neck is very remarkably long, even for an animal of the camel-kind: the breaſt is broad, and has on it's middle a very large protuberance or bunch, exactly reſembling that of the camel's back; there is continually a kind of fluid ſecreted from this part: the back is rounded, and the body tolerably fleſhy: the tail is ſhort; the legs are moderately long: the whole body is

of

QUADRUPEDS Series 4

The Elephant

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The Horse

The Sea Horse

The Zebra a Wild Ass

The Boar

The Dromedary

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The Chamoise

The Bonasus

The African Antilope

B. Cole sc

of a pale dun colour, and the down is ſoft and fine: the feet are broad and fleſhy; the ſoal flat and ſoft, covered only with a ſkin, as in the camel, and the front of the foot is divided into toes in the ſame manner.

This is a native of Peru; it is a tame and inoffenſive animal, and ſerves the natives as a beaſt of burthen. Ray calls it Camelus Peruvianus Glama dictus; others, Ovis Glama dictus; Matthiolus Elapho-camelus.

Camelus gibbis nullis.
The Camelus, without any gibboſity.

The Pacos.

This has alſo been reckoned by many a ſpecies of ſheep, though it be truly and properly a camel; it is about three feet and a half high, from the ground to the top of the back, but the neck is very long, and, when the head is carried erect, it is very tall: the head is ſhort; the ears are alſo ſhort and broad; the eyes are moderately large and prominent, and the upper lip is divided or ſplit as in the hare: the neck is long and ſlender; the body is plump and rounded; the tail is a foot and a half in length, and the legs are long and ſlender, but ſtrong, and are covered with a very ſhort and fine down.

The head has ſome conſiderably long hair about it, and the neck is covered with a ſurpriſing quantity of the ſame kind, but of a greater length: this is uſed as wool in the country where the creature is produced, and it is in conſequence of this that the animal which produces it has been called a ſheep, for there is not any one thing beſide that can have led to the ranking it with that animal.

It is a native of Peru, and is ſometimes employed, as the Glama, in carrying burthens; but it is leſs fit for this; it is valued for the hair of the neck, and for it's fleſh, which is well taſted. Authors call it Pacos, and Ovis Peruviana.

MOSCHUS.

THE Moſchus has no horns; the canine teeth of the upper jaw are exerted. Of this genus there is only one known ſpecies, which is the animal that produces the perfume, from which it is named.

MOSCHUS. The Muſk Animal.

This creature has not only been miſrepreſented by thoſe who have written on animals in general, but it has been referred to genera, with the ſpecies of which it has not the leaſt affinity. Some authors have made it a kind of goat; others have called it a ſtag, but this is extreamly improper, and it is very ſtrange that thoſe who thus arranged it, ſhould not have attended to it's having no horns, and to it's having exerted tuſks.

The creature, when full-grown, is three feet in length, from the tip of the noſe to the rump: the head is oblong; it's length is about ſix inches, and it is narrow; it is not more than three inches in diameter acroſs the forehead, and it thence gradually tapers to the noſe, where it is very ſmall: the anterior part of the head is, indeed, much like that of the greyhound: the ears are long and erect; they reſemble thoſe of the rabbit, and are equal in length to the diameter of the forehead: the tail is very ſhort; it is not more than two inches in length, and the creature always carries it erect: the body is tolerably fleſhy and rounded; the legs are moderately long, they are more than a foot in length, and are tolerably robuſt: the feet are deeply divided each into two claws in the anterior part, and as many heels behind: the heels are as long as the anterior diviſions of the foot, and are therefore remarkably conſpicuous.

The fur on the head, and that on the legs, is about half an inch long; that on the belly is an inch and half in length, and that which grows on the back is three inches:

theſe

theſe hairs are thicker than in any other known animal, and are variegated from the baſe to the extremity with diſtinct ſpaces of brown and white: thoſe on the head and legs, indeed, are ſolely and uniformly brown, and thoſe on the belly, and under the tail, white; and theſe, as well as thoſe on the back, are not ſtraight, but curled or waved, with two or three undulations.

On each ſide of the lower jaw, near the angle of the mouth, there ſtands a tuft of ſhort and rigid hairs; theſe are all of the ſame length, and theſe tufts of them have a very ſingular appearance. The veſſel or bag in which the perfume, called muſk, is contained, is three inches long, and two broad, and hangs under the belly, protuberating near three quarters of an inch beyond the ſurface.

This is a native of the Eaſt. All the writers on quadrupeds have deſcribed it under the name of Moſchus, Animal Moſchiferum, Capra Moſchifera, and Cervus Moſchiferus.

CERVUS.

THE horns of the Cervus are ſolid, divaricated, and deciduous; they are hairy at firſt, but afterwards ſmooth: the canine teeth of the upper jaw are ſingle and remote.

Cervus cornubus ſimpliciſſimis, pedibus anticis longiſſimis.
The Cervus, with the ſimple horns, and the fore-legs very long.

The Camelopardalis.

This is one of the moſt extraordinary animals in the world. Authors have been ſtrangely puzzled among what others to arrange it; ſome have made it a camel, others a ſheep, and the generality have called it neither the one nor the other, but an animal ſui generis: the horns differ extreamly in form from thoſe of the generality of the ſtag-kind, but it is evidently of that genus, nor is there any neceſſity to eſtabliſh the palmated figure of the horns, as one of the characters of it.

It is at once one of the moſt beautiful and aſtoniſhing creatures in the world; when it ſtands erect, it meaſures to the head not leſs than ſixteen feet from the ground, and from the front of the noſe to the tail is eighteen feet; this vaſt height and length, however, are, in a great meaſure, owing to the length of the neck, which is enormous, beyond that of all other animals, for the body is very ſmall, in proportion, and eſpecially at the hinder part is but low.

The head is of the form of that of the common deer, but it is much ſmaller, in proportion: the eyes are large and prominent; the ears very large and patulous, and the horns ſimple, very ſhort, and obtuſe: the neck is ſlender; though ſo monſtrouſly long, it carries it uſually erect and ſtraight, and the hinder part of it is ornamented with a very elegant mane, which flows gracefully in every direction about the neck.

The body is not very bulky, but it is rounded and ſhort: the breaſt is broad; the hinder part ſmall, and as it were diſproportioned: the tail hangs down to the hams, and is beſet with hairs as ſtiff and thick as thoſe of a horſe's tail.

The proportion of the legs is another extream ſingularity in this creature: the anterior pair are very long; the hinder ones ſo ſhort, that the body is carried in ſo oblique a direction, that the creature ſeems riſing into an erect poſture. Nature has not formed it for eating graſs, for it is with great difficulty that it can get it's head to the ground, as it ſtands; it naturally feeds on the leaves and young ſhoots of trees: the whole body is covered with a fur, compoſed of thick hairs of a moderate length, and it is ſpotted with black, and a very deep brown on a light ground, in the manner of the panther.

It is a native of ſome parts of the Eaſt, and is extreamly tame and inoffenſive. The Arabians call it Zarnæpa and Giraffa; moſt of our writers, Camelopardalis. The figure is ſo extreamly ſingular, that many people thought it a creature of imagination, till Bellonius deſcribed it from the life.

Cervus cornubus acaulibus palmatis.
The Cervus, with the horns palmated, and without a ſtem.

The Elk.

The elk is a very large and ſtrong animal; it is equal to a well-ſized horſe in magnitude, and not inferior in ſtrength, but is a much leſs beautiful creature: the head is large and oblong, very broad at the forehead, and tapering to the noſe, where it is ſmall but obtuſe: the mouth is large, the lips thick, and the teeth ſtrong: the eyes are moderately large, but they do not ſtand prominent; the ears are very remarkably large and long; they in this reſpect reſemble thoſe of the aſs, and indeed the female elk is not greatly unlike that creature in her general figure: the ears are nine inches long, and four in breadth, and are erect and patulous: the horns are not tall and ramoſe, in the manner of thoſe of the generality of the deer-kind, but they ariſe with a thick and ſhort trunk, which almoſt immediately ſpreads into a vaſt breadth; and this expanſion, which reſembles in ſome degree an open hand, is ornamented at the extremity with ſome denticulations reſembling fingers: the neck is ſhort and thick; the body is large, and the back broad and flatted; the legs are moderately long, and extreamly robuſt: the horns in the male, for the female has none, refer the creature at ſight to the ſtag-claſs, but the bulk of the body, and general proportions, if the female alone were examined, would not lead any one to think it ſuch.

The whole body is covered with a thick and tolerably deep fur; the hairs are rigid, and very firm: the colour of the whole creature is a duſky browniſh-grey, only the belly is ſomewhat paler, and the legs darker than the reſt: the hoofs are divided exactly in the manner of thoſe of the ſtag, and are ſuppoſed to have great virtue in nervous diſorders, but 'tis probably no more than that of the horns and hoofs of any other ſpecies.

This is a native of many of the northern parts of Europe; it bears the frozen countries very well, and runs upon the ice in a ſtrange manner. All the writers on quadrupeds have deſcribed it, and all under the names of Alce and Elce.

Cervus cornubus ramoſis, teretibus, incurvis.
The Cervus, with ramoſe, cylindric, and crooked horns.

The Stag.

This is a very ſtately and a very beautiful animal: people are apt to confound it with the common fallow deer, but with great impropriety; it is of twice the ſize, and different in many other reſpects: the head is remarkably large, and the neck ſtrong and thick, as is indeed neceſſary, were it only for the ſupporting it's vaſt load of horns.

The head is oblong, very large and broad on the forehead, and gradually ſmaller, but obtuſe at the end of the ſnout: the eyes are full and large; the ears are long and patulous; the horns are tall, almoſt erect, and of a beautiful form; they riſe each with a ſingle and rounded ſtem, which continues it's form to the top, only ſending off branches and divarications: they are hairy, when once formed, but afterwards they become very ſtrong, and loſe all that downy appearance.

The neck is ſhort, and extreamly robuſt; the body is oblong, rounded, and plump; the back ſomewhat flatted, and the belly prominent: the legs are long, and very robuſt; the hoofs cloven: the fur is deep, and the hairs of which it is compoſed are remarkably thick: the colour is a tawny reddiſh, with a mixture of brown.

This is a native of England, and of moſt other parts of Europe, but the ſportſmen will not ſuffer it to be very frequent. The male is called a Stag or Hart, the female a Hind; we call both ſexes by the general name of the Red Deer.

Cervus cornubus ramoſis teretibus, ſummitatibus palmatis.
The Stag, with the horns ramoſe and cylindric, and their tops palmated.

The Rein-deer.

This is a large and very beautiful ſpecies; it is not inferior to the elk in ſize or ſtrength, but it greatly exceeds it in form, and has all the appearance of the deer-kind; it is of the ſize of a ſmall horſe, but it's ſhape is exactly that of the red deer: the head is oblong, large, and gradually ſmaller from the region of the ears to the ſnout, where it is not ſo obtuſe as moſt of the deer-kind: the eyes are not large; the ears are moderately long, and reſemble thoſe of the common or fallow deer in ſhape: the horns are very large, and very beautiful; they are of a middle kind, between thoſe of the ſtag and of the elk: they riſe with a very large cylindric and ſtrong trunk, which is continued to a great height, as in the ſtag, and in the ſame manner as in that ſpecies ſends off it's ramifications, but toward the top it ſpreads into breadth, and becomes palmated ſo, as in the whole to exceed all the other horns of the deer-kind in beauty.

The neck is ſhort, but very ſtrong; the breaſt and ſhoulders are very large, and the whole body ſeems calculated for extraordinary ſtrength: the legs are long and very robuſt; the tail is longer, in proportion, than in the ſtag; the hoofs are divided in the uſual manner: the colour is a tawny brown, with an admixture of a ferrugineous red.

This is a native of the frozen regions; there is no country ſo far north as not to afford it. It is calculated for living in regions where the common herbage cannot grow, for it will feed on the moſs of mountains, and branches of trees. It is of vaſt uſe to the inhabitants of the northern countries, as a beaſt of draught. Authors call it Rangifer.

Cervus cornubus ramoſis compreſſis, ſummitatibus palmatis.
The Cervus, with ramoſe, compreſſed horns, palmated at top.

The Fallow Deer.

This is a very beautiful ſpecies; it perfectly reſembles the ſtag or red deer in form, but is much ſmaller, and exceeds not only that, but every ſpecies, in beauty: the head is oblong, rounded, and obtuſe; the eyes are large and prominent; the ears are moderately long and patulous: the neck is robuſt, and moderately long; the body is tolerably bulky and rounded; the tail is ſhort; the legs are long, ſlender, and yet ſtrong: the horns approach more in figure to thoſe of the rein-deer, than of any other ſpecies: they are large at the baſe, and run up a great way with a bulky ſtem; but this is not rounded, as in the rein-deer, but compreſſed at the top; they are divaricated and palmated.

This is frequent in our parks, where we have a great many varieties of it in regard to the colouring, all which are, however, from the ſame original ſpecies. All the writers on quadrupeds have deſcribed it; they call it Cervus Platyceros and Dama.

Cervus cornubus ramoſis, teretibus, erectis.
The Cervus, with ramoſe, cylindric, and erect horns.

The Roe-deer.

This is the ſmalleſt of the Cervus-kind; it is conſiderably leſs than the fallow deer: the head is obtuſe and oblong; the eyes are ſmall, but prominent; the ears are moderately long, and very patulous: the horns are like thoſe of the common deer, except that they are not at all palmated at the extremities, but are all the way taper and divided; they alſo ſend off a number of ſhoots on the ſides, and are rougher on the ſurface, than thoſe of any other ſpecies: the neck is ſhort and thick; the body is leſs corpulent than in any other ſpecies, and the legs are ſlender, and very beautiful.

The

The ground colour is a deep brown, but it is variegated in an elegant manner with black, and a very deep grey; it is ſometimes quite plain, and ſometimes has other of theſe marks in a beautiful wildneſs.

We have this in our parks. Authors call it Capreolus and Caprea, but it has no reſemblance of the goat-kind.

CAPRA.

THE horns of the Capra are hollow, and are turned upwards, and are erect, and ſcabrous: the fore-teeth are eight, and the exterior ones are ſhorter than the others, and acute: there are no canine teeth.

Capra cornubus carinatis arcuatis.
The Capra, with carinated, arcuated horns.

The Goat.

The common goat is nearly of the ſize of the ſheep, but the wool of the latter makes it appear much the larger: the head is oblong, conſiderably broad at the top, and thence gradually taper to the extremity of the noſe, where it is ſmall and ſharp: the eyes are large and bright; the noſtrils wide, and the mouth large: the neck is ſhort and thick; the body bulky, and the legs ſhort, but robuſt, and very ſtiff; the hoof is divided and brown.

The fur of the goat is deep, and the hairs rigid; they are waved, but not curled as in the ſheep, ſo that the longeſt of them have not at all the appearance of wool: the beard is long, and hangs down from the chin: the horns are moderately long, ſtraight, or but little contorted, and of a deep brown: the general colour of the goat, in it's wild ſtate, is a pale dun, but, as kept tame, the varieties in this reſpect are endleſs.

It is a native of moſt parts of Europe. It is fond of mountainous and rocky places, and runs up precipices, and climbs rocks in a ſurpriſing manner, though it's feet ſeem by no means formed for it. All the writers on beaſts have deſcribed it. They call it Hircus and Caper vulgaris.

Capra pedibus digito humano anguſtioribus.
The Capra, with feet ſmaller than a man's finger.

The Guinea-deer.

This elegant little creature is univerſally referred to the deer-kind, but improperly; it is truly and in all reſpects a goat: it is not ſo tall as a common cat, and extreamly fine limbed: the head is ſmall and oblong; the eyes are large, in proportion, and are bright and piercing; the ears are patulous: the horns are very ſhort; they ſtand almoſt erect, and are furrowed on the ſurface, and of a deep brown: the body is moderately bulky; the legs are very ſlender, the hoofs are divided, as in the common goat, and of a pale brown: the whole animal is covered with a fine coat, of a bright ſhining yellowiſh-brown, and very gloſſy.

This is a native of Guinea, and ſome other warm countries. Authors call it Cervus puſillus Guineenſis.

Capra cornubus erectis uncinatis.
The Capra, with erect, uncinated horns.

The Rupicapra, or Chamoiſe.

This is a very beautiful animal; it's horns refer it evidently to the goat-kind, otherwiſe it's whole form has more of the appearance of the deer: the head is long and narrow, rounded at the top, and obtuſe, but very ſmall at the extremity of the noſe: the eyes are large, bright, and tolerably prominent; the ears are patulous; the horns are of a ſingular make; they ſtand nearly erect, and are ſeven inches long; both the male

male and female have them: they are ſtraight to very near the top, where they are bent back in the ſhape of a hook, and are ſharp at the ends; they are of a very dark brown, nearly approaching to black, and are annulated on the under part, and longitudinally ſtriated on the upper; they are hollow, and the cavity is filled up by a bony matter growing from the ſkull.

The neck is moderately long and ſlender; the breaſt full, broad, and well formed; the body is not very bulky: the legs are ſlender and long; the whole body is covered with a deep fur, waved, and ſomewhat curled at the inner part of the ears; the forehead, the throat, and the belly are white: the upper part of the head, over the eyes, has on each ſide an oblong ſpot of yellow: the whole body beſide is of a blackiſh colour, not bright and gloſſy, but obſcure; the tail is blacker than the reſt, and it is black on both ſides, not white underneath, as in many animals of this genus.

This is a native of many of the warm climates, and has been deſcribed by moſt of the writers on animals. They call it Rupicapra; the French, Chamoiſe; and the Germans, Gempe, or Gems. The hooked form of the tips of the horns, in this ſpecies, has given occaſion to the error of ſuppoſing it hangs by them to the rocks, and to many other tales equally abſurd and ridiculous.

Capra cornubus nodoſis in dorſum reclinatis.
The Capra, with nodoſe horns bending towards the back. **The Ibex.**

This is a very beautiful animal, but in nothing ſo ſingular as in the length of it's horns: the head is ſmall, and beautifully formed; the eyes are large and bright; the ears are patulous; the noſe is obtuſe, and the noſtrils wide: the horns are of a ſurpriſing length, they hang backward, and often extend conſiderably beyond the rump, being more than equal to the neck and body in length: they are of a blackiſh colour, and annulated on the ſurface.

The body is not ſo large, in proportion to the height, as in the common goat, but more reſembles the deer-kind; the legs are alſo perfectly like thoſe of the deer, ſtraight, ſlender, and elegant; the hoofs are blackiſh: the whole body is of a dark duſky colour, and the male has a very long and buſhy black beard.

This is frequent in many parts of Europe; it lives in mountainous places, and, notwithſtanding the incumbrance of that vaſt length of horns, it runs and leaps with a ſurpriſing force and rapidity. Moſt of the writers on quadrupeds have deſcribed it. They call it the Ibex and Rupicapra; the Germans, Steinbock.

Capra cornubus teretibus dimidiato arcuatis, annulatis.
The Capra, with the horns cylindric, and half way arched. **The Antelope.**

Many of the goat-kind approach to the deer in ſhape, but none ſo much as this; it is a very beautiful creature: the head is ſmall, oblong, and obtuſe; the eyes are large; the ears are patulous, and the noſtrils wide: the horns are of an extreamly ſingular figure; they are not of any great length; they ſtand in an erect poſition, but are not ſtraight, for toward the middle they are turned or bent outwards, and from thence to the top they bend inwards, ſo that they in ſome degree repreſent the lyre of the antients: they are of a coal-black colour, and ſeen ornamented with a ſpiral twiſt, but the lines are in reality circular: the neck is ſlender, and elegantly turned, and is longer than in the generality of the goat-kind: the body is rounded, and not very thick, but the breaſt is broad and beautiful: the legs are very ſlender, and the hoofs divided in the manner of thoſe of the goat, and black.

This is a native of Africa, and is a very ſwift and bold animal; it will attack almoſt any thing in it's defence. Moſt of the writers on animals have named it. They call it Capricerva, Dorcas Lybica, and Strepſicoros Plinii. We have it ſometimes kept in parks, but it is apt to be miſchievous.

Capra

Capra cornubus teretibus, rectiſſimis, longiſſimis, baſi annulatis.
The Capra, with cylindric, ſtraight, and very long horns, annulated at the baſe.

The Indian Antelope, or Bezoar-goat.

This is an extreamly beautiful animal, and the horns are different from thoſe of all others of this genus; the creature is of the bigneſs of the common fallow deer: the head is ſmall, oblong, and obtuſe at the noſtrils; the ears are patulous; the eyes are large and prominent: the horns are not leſs than three feet in length; when full-grown, they ſtand erect, and are perfectly ſtraight; they are annulated or marked with diviſions ſtanding circularly above the reſt of the ſurface, toward the bottom, but all the way up from the part they are ſmooth, and of a ſhining ſurface, and black colour: the neck is ſhort and thick; the body is of an elegant form, rounded, and not very thick: the legs are long and ſlender; the tail is a foot in length, and is hairy all the way down: the whole body is ſometimes of a pale and bright brown colour; ſometimes it is darker, and often is variegated in a very elegant manner, and has the ſpots diſpoſed like thoſe in the panther: the hoofs are always black, and the lower part of the legs alſo is uſually ſo.

This is a native of the Eaſt. Moſt authors have deſcribed it, though many of them very inaccurately. They have called it Gazella Indica, and Capra Bezoartica. The Bezoar-ſtone, a drug of more price than virtue, though not than fame, is found in the ſtomach of this animal.

Capra cornubus teretibus, perfecte annulatis, arcuatis.
The Capra, with cylindric, arched, and perfectly annulated horns.

The African Antelope.

This is a ſmall but a very beautiful ſpecies; it is not equal to the common deer in ſize, but it greatly reſembles it in ſhape, and, were it not for the horns, would be more aptly referred to that than to the goat-kind: the head is larger than in the others, but it is not broad but rounded; the noſe is obtuſe, and the noſtrils are wide: the eyes are large and prominent; the ears are large and patulous; the horns ariſe from the middle of the forehead, juſt between the eyes; they are not remarkable for their length, but they are of a beautiful black colour, and are annulated all the way from the baſe to the very tips; they riſe up ſtraight from the head, but they are bent near the middle: the neck is ſhort, and ſomewhat thick; the body is long and ſlender; the legs are ſlender, and the tail is moderately long and black.

The back is of a duſky grey; the belly white, and the ſides are of a mixed colour, between grey and white; there alſo runs down a broad line of white from the forehead to the noſe; the inſide of the ears alſo, and the under part of the tail, are white.

This is a native of Africa, but it is ſometimes brought over to us alive, and kept in our parks. Many of the writers on animals have named it, but few have accurately deſcribed it. They call it Capra Africana.

Capra capite faſciculo tophoſo, cavitate infra oculos.
The Capra, with a tophoſe bunch on the head, and a hollow under the eyes.

This is a very beautiful ſpecies; it is conſiderably ſmaller than the common goat: the head is large, and is ornamented with a very ſingular protuberance in the middle; this is of a fleſhy ſubſtance, and covered with a deep fur: the ears are moderately large and patulous; the eyes are large and protuberant, and, what is very ſingular, there is a cavity on each ſide of the head, between theſe and the noſe, in which there is ſecreted a yellowiſh fœtid liquor, which ſoon coagulates, and becomes black: the preſent quantity being wiped away, there is immediately a freſh ſupply ſecreted: theſe ca-

vities have no communication with the eyes; the ſmell of the ſecreted matter is of a middle kind, between that of muſk and caſtor, but the latter is prevalent.

The neck is ſhort and thick; the body is thick, and the belly often hangs down a little: the tail is ſhort, and the legs are robuſt, but not long.

The colour of the whole animal is a deep grey; it is almoſt black on the back, paler at the ſides, and whitiſh at the belly: the hoofs are black, as are alſo the bottoms of the legs. Ray has deſcribed this ſpecies under the name of Capra ſylveſtris Africana Gremmii.

Capra auribus pendulis longiſſimis.
The Capra, with very long, pendulous ears.

The long-eared, Syrian Goat.

This is of the ſize of the common goat, and greatly reſembles it in form: the head is oblong, ſmall, and obtuſe, though ſlender at the ſnout: the noſtrils are wide; the ears are remarkably large; they are not only very long, but very broad, and do not ſtand erect, but are pendulous, in the manner of thoſe of our hounds: the eyes are large and prominent; the horns are ſhort, and have but one intortion; they are of a deep black, and ſharp at the points: the body is thick and ſhort; the legs are robuſt, and not long: the colour is a reddiſh-tawny, not unlike that of the fox.

The creature is a native of Syria, but it is ſometimes brought over alive to us, and ſhewn among other beaſts as a curioſity. Geſner firſt deſcribed it. He calls it Capra Mambrina ſive Syriaca; Ray continues the ſame name.

OVIS.

THE horns of the Ovis are hollow, bent backward, twiſted, and rugoſe: the fore-teeth are eight; the hinder ones are narrower than the others, there are no canine teeth.

Ovis cornubus compreſſis lunatis.
The Ovis, with compreſſed and lunated horns.

The Sheep.

The common ſheep is an animal more remarkable for it's uſe than beauty, though, when perfectly clean, it is not without it's ſhare of comelineſs: the head is ſmall, oblong, and narrow at the ſnout; the eyes are large and prominent; the ears are patulous, and the horns of a twiſted figure turning backwards, and they are not rounded but flat, and annulated on the ſurface: the face is covered only with a ſhort kind of hair, as are alſo the legs, which are rather long than robuſt, but the whole body beſide is covered with a thick and deep wool, curled and twiſted, and obſcuring the ſhape of the body, and making it ſeem much thicker and clumſier than it really is.

The tail is ſhort with us, in compariſon of that extent to which it grows in ſome parts of Arabia, where it ſpreads into a vaſt breadth as well as length, and trails after the animal. Some have diſtinguiſhed the ſheep under this variety, by the name of Ovis laticauda, as if a ſpecies different from the common kind; but this is an error, for the difference is no more than a variety.

Ovis cornubus erectis ſpiralibus.
The Ovis, with erect and ſpiral horns.

The Cretic Sheep.

This is of the bigneſs of the common ſheep, and reſembles it in form: the head is oblong, broad at the top, and very ſmall at the noſe; the eyes are large and prominent; the ears are patulous; the horns are not at all like thoſe of our ſheep; they are ſhort, erect, and ſtraight, large at the baſe, very ſharp at the point, and elegantly cochleated

cochleated or marked with a ſpiral twiſt all the way up: the neck is ſhort and thick; the body appears bulky, but that is rather owing to the thick covering of wool which it carries, than to it's real ſize: the legs are very long, in compariſon of thoſe of our ſheep; they and the face are covered with ſhort and rigid greyiſh-fur; the body with a ſoft white curling wool.

This is frequent in Crete, and other parts of the Levant. Bellonius calls it Strepſiceros Cretica; and others have continued the name, only adding to it the generical term Ovis.

Ovis auribus pendulis, palearibus laxis, occipite prominente.
The Ovis, with pendulous ears, a lax dewlap, and with the back of the head prominent.

The Angolan Sheep.

This is a very ſingular ſpecies, and is extremely from the common ſheep in many reſpects; it is ſomewhat larger than the common kind: the head is ſhorter, and more obtuſe, and on the hinder part ſwells out in a ſingular and very conſpicuous manner: the noſe is obtuſe; the noſtrils are large; the eyes are large and prominent: the ears are very long and broad, and are not carried erect, but hang down: the horns are ſmall, but they are of the form of thoſe of our ram, and turn round till their point comes near the eyes: the neck is ſhort, and the fleſh of the under part of it is looſe, and is ornamented with a kind of mane of long hairs: the body is bulky, and the legs are long and robuſt; the tail is long and hairy.

The body is not covered with wool, in the manner of our ſheep, but with ſhort, rigid, and undulated hair, like that of the goat-kind.

This is a native of the coaſt of Guinea, and ſome other parts of Africa. Ray and others call it Ovis Guinienſis ſive Angolenſis.

B O S.

THE horns of the Bos are hollow, and are turned forward; they are of a lunulated figure, and a ſmooth ſurface: the fore-teeth are eight in number, and there are no canine teeth.

Bos cornubus teretibus flexis.
The Bos, with cylindric, crooked horns.

The Bull.

The bull is a very heavy, but a ſtately and fierce-looking, animal: the head is large, oblong, and very broad; the noſe is obtuſe; the noſtrils are wide; the eyes are large, and have a very fierce aſpect; the ears are long and patulous: the horns are ſhort, and but little; bent ſmooth on the ſurface, and ſharp at the point.

The forehead of the bull is decorated with ſhort curled hair; the ſkin hangs looſe under his throat: the neck is very thick and robuſt; the body is very large, and the legs ſtrong, and moderately long; the tail is long: the colour is generally a deep reddiſh-brown, but it varies greatly.

This is wild in many parts of Europe, we have it bred for the ſake of it's fleſh; when caſtrated, it becomes what we call the ox. There are ſome parts of Europe where the bull, in it's wild ſtate, grows to the full bigneſs of our ox, and is very fierce. Authors have called it in this ſtate Urus, as if of a different ſpecies. We call it, in the tame ſtate, Taurus, and the female Vacca, the Cow.

Bos juba longiſſima, cornubus inflexis.
The Bos, with a very long mane, and bent horns.

The Bonaſus.

This is a very bulky and unwieldy animal; it is larger than our bull: the head is ſhort and broad, and the forehead flat; the noſe is obtuſe; the noſtrils are wide, and the

the ears are long and broad: the horns are very ſhort, they do not exceed eight inches in length, and are turned in ſuch a manner, as to be quite unfit for wounding: the neck is ſhort and thick, and is ornamented with a mane like that of a horſe, which hangs down quite to the breaſt: the body is very bulky, much more ſo than in the common bull; the legs are very thick and robuſt, but ſhort; the tail is long: the colour of the whole animal is a deep tawny, only the forehead and the breaſt are white: the mane is of a darker and browner colour than any other part.

This is a native of the Eaſt, and of many other of the warmer climates. When purſued, it does not attempt to defend itſelf with it's horns, but kicks and diſcharges it's dung to a great diſtance againſt the purſuers. Ariſtotle, and all the old authors, have deſcribed it, they call it Bonaſus.

Bos juba longiſſima, dorſo gibboſo.
The Bos, with a very long mane, and a gibboſe back. **The Biſon.**

This is a robuſt and fierce animal; it is equal to the common bull in ſize: the head is very large, broad, and ſhort; the noſe is obtuſe; the noſtrils are large, and the eyes are large and fierce in their aſpect: the horns are longer than in the common bull, and point more forwards: the neck is very robuſt and thick; there hangs all down it a mane conſiderably long and ſhaggy quite to the breaſt: the body is very bulky and unwieldy: the legs are ſhort and thick; the tail reaches to the ground; there is a large bunch on the ridge of the back, like that of a camel.

This is a native of America, and is a very fine creature. Authors call it Bos Camelita and Biſon.

Bos cornubus vaſtis, intortis, reſupinatis.
The Bos, with very large, crooked, and reſupinated horns **The Buffaloe.**

This is a very large ſpecies; it is equal in ſize to our biggeſt oxen: the head is very large; the forehead remarkably broad, and the aſpect very fierce and terrible: the eyes are large and prominent; the ears are large, long, and patulous: the horns are vaſtly large, of a coal-black colour, and intorted; they are very thick at the baſe, but ſharp at the point: the neck is thick, and remarkably ſhort; the fleſh hangs very looſe under the throat; the body is more bulky, in proportion, than in our bull, and the legs are thicker, but about equal in length.

The colour is uſually a blackiſh-grey, but in this there is great variation: there is uſually ſome white under the belly, and about the forehead.

This is a native of the Eaſt, but it has been introduced into Italy, and ſome other parts of Europe, where it is kept for ſervice. It is a beaſt of burthen and draught in the pope's territories; and the milk of the female is uſed as that of our cows. But it is apt to be miſchievous, and is leſs fit to be truſted looſe in fields where people walk. All the writers on quadrupeds have mentioned it. There has been ſome diſpute whether the name of the Bubalus or Buffaloe belonged to this ſpecies, or to ſome other. It has been, by ſome authors, applied to the other ſpecies, but this moſt agrees with the oldeſt deſcriptions.

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